

Service Manual

Radio Cassette

RX-F32LS/LE

FM-LW-MW-SW Stereo Radio Cassette Recorder



■ SPECIFICATIONS

General:

Power Requirement: AC; 110~115/115~127/200~220/
230~250V, 50/60 Hz
Battery; 12V (eight "C" Size Flashlight
Batteries)
(National UM-2 or equivalent)
Car battery; with optional car
adaptor RP-952

Power Consumption: 25W (AC only)
Power Output: 20W (10W×2)...RMS (max.)
20W (10W×2)...MPO

Speaker: 9cm (3¹/₂") PM Dynamic Speaker (6Ω)
Input: MIC; sensitivity 0.25mV/applicable
microphone impedance
200~600Ω
LINE IN; sensitivity 200mV/50kΩ over
DC IN; 12V

Output: LINE OUT; sensitivity 420mV/47kΩ
EXT SP; 3~8Ω
HEADPHONES; 32Ω

Dimensions: 418mm(W)×220mm(H)×110mm(D)
(16¹/₂×8¹/₁₆×4³/₈")

Weight: 4.15kg (9 lb. 2.4 oz.) without batteries

Radio Section:

Radio Frequency Range: FM; 87.5~108MHz
LW; 150~285kHz (2000~1060m)
MW; 520~1610kHz (577~186m)
SW; 5.9~18MHz (50.8~16.7m)

Intermediate Frequency: FM; 10.7MHz
AM (LW/MW/SW); 455kHz
AM (LW/MW/SW); 470kHz (For U.K)

Sensitivity: FM; 1.8μV/500mW output
LW; 178μV/m/50mW output
MW; 141μV/m/50mW output
SW; 8.9μV/50mW output

Tape Deck Section:

Frequency Response: 60~12,000Hz (with normal tape)
60~14,000Hz (with Metal tape)

Recording System: AC bias, AC erase

Tape Speed: 4.8cm/s, (1⁷/₈ ips)

Wow and Flutter: 0.2% (WRMS)

Program Time: 1 hour with C-60 cassette tape

Track System: 4-track 2 channel stereo recording
and playback

Specifications are subject to change without notice.

Panasonic

LOCATION OF CONTROLS AND COMPONENTS

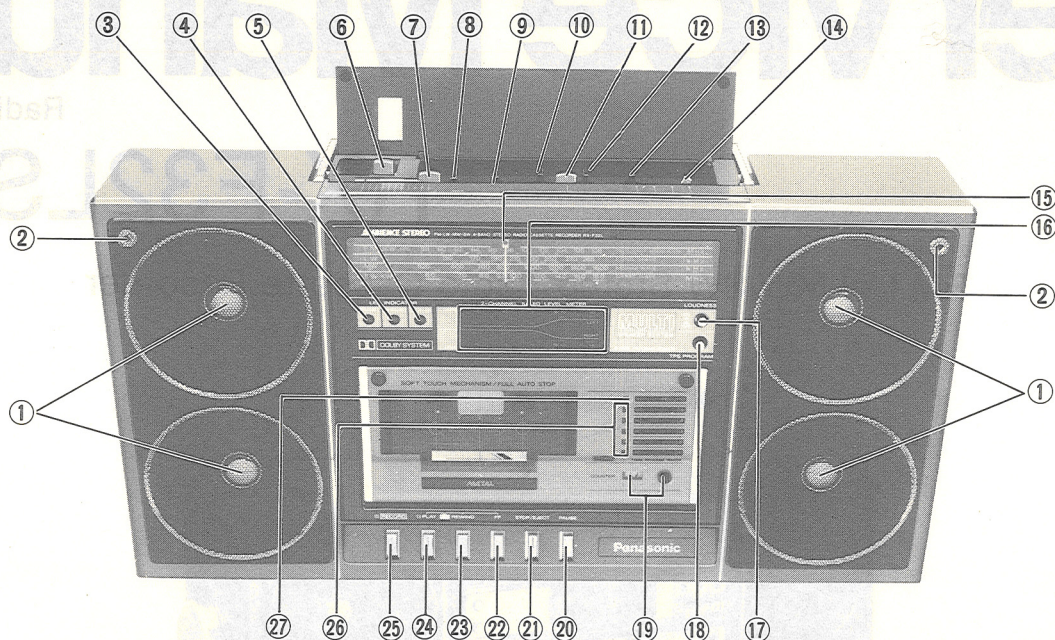


Fig. 1

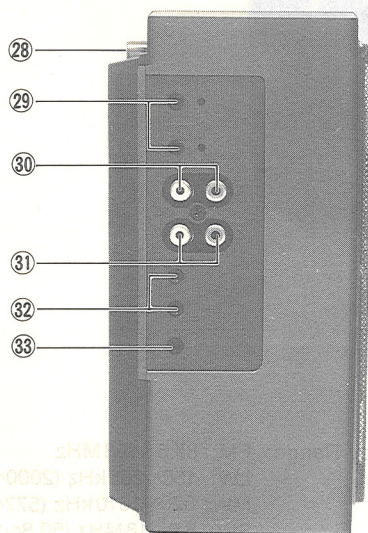


Fig. 2

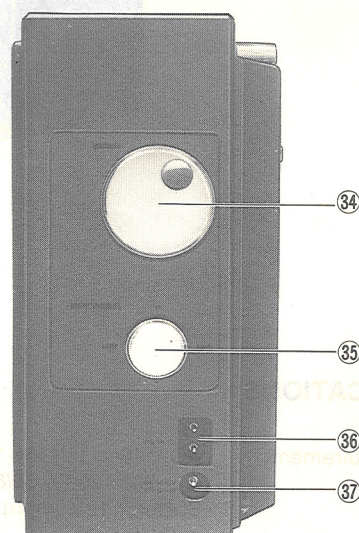
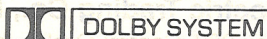


Fig. 3

- ① PM Dynamic Speakers [9cm (3½") 6Ω]
- ② Built-in Microphones (MIC)
- ③ Operation/Battery Indicator (OPR/BATT)
- ④ FM Stereo Indicator (FM STEREO)
- ⑤ Dolby NR Indicator (DOLBY NR)
- ⑥ Function Switch (SELECTOR)
[POWER OFF/TAPE, RADIO, LINE IN]
- ⑦ Volume Control (VOLUME)
- ⑧ Tape Switch (TAPE) [NORMAL, METAL]
- ⑨ Mode/Beat Proof Switch (MODE/BEAT PROOF)
[MONO/I, STEREO/II, AMBIENCE/III]
- ⑩ Bass Control (BASS)
- ⑪ Dolby NR Switch (DOLBY NR) [IN, OUT]
- ⑫ Treble Control (TREBLE)
- ⑬ Balance Control (BALANCE)
- ⑭ Band Switch (BAND) [FM, LW, MW, SW]
- ⑮ Tuning Indicator
- ⑯ Level Meter (2-CHANNEL 5-LED LEVEL METER)
- ⑰ Loudness Switch (LOUDNESS) [ON, OFF]
- ⑱ TPS Program Button (TPS PROGRAM)

- ⑲ Counter and Reset Button (COUNTER)
- ⑳ Pause Button (PAUSE)
- ㉑ Stop/Eject Button (STOP/EJECT)
- ㉒ Fast Forward Button (FF)
- ㉓ Rewind Button (REWIND)
- ㉔ Playback Button (PLAY)
- ㉕ Record Button (RECORD)
- ㉖ TPS Indicator (TPS)
- ㉗ Record Indicator (RECORD)
- ㉘ Telescopic Antenna
- ㉙ EXT. MIC Jacks (MIC) φ 3.5
[0.25mV, 200~600Ω]
- ㉚ Line Input Jacks (LINE IN) [200mV/50kΩ over]
- ㉛ Line Output Jacks (LINE OUT) [420mV/47kΩ]
- ㉜ EXT. SP Jacks (EXT SP) [3~8Ω] φ 3.5
- ㉝ Headphone Jack (PHONES) [32Ω] φ 3.5
- ㉞ Tuning Control (TUNING)
- ㉟ Fine Tuning Control (FINE TUNING)
- ㊱ AC Socket (AC IN~)
- ㊲ DC Input Jack (DC IN 12V ⊖ ⊕)



* "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

* Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

DISASSEMBLY INSTRUCTIONS

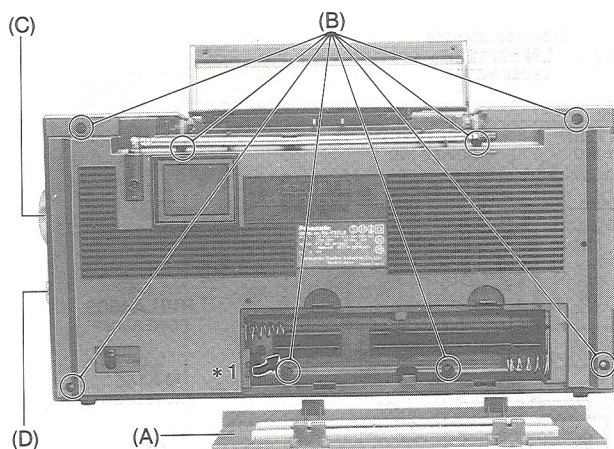


Fig. 4

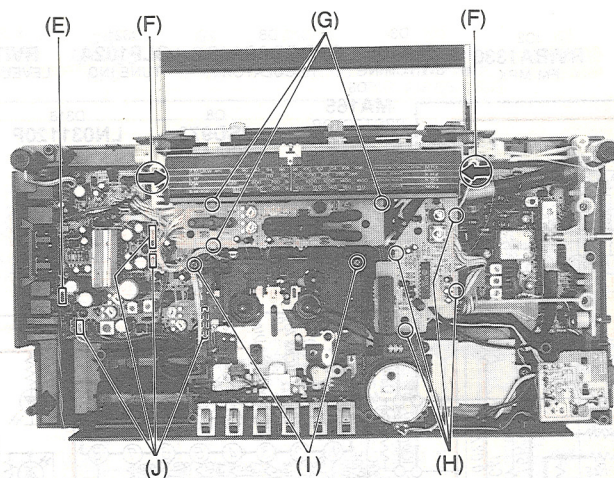


Fig. 5

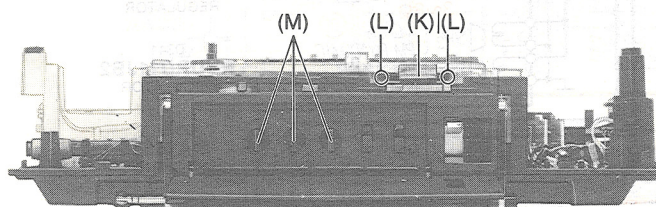


Fig. 6

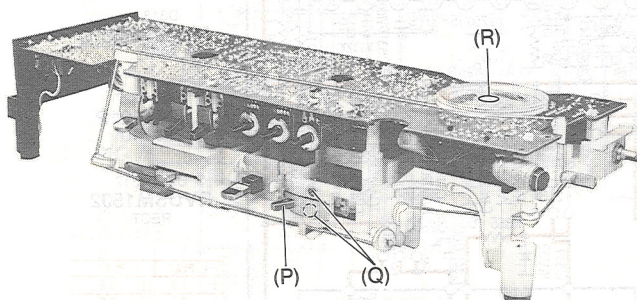


Fig. 8

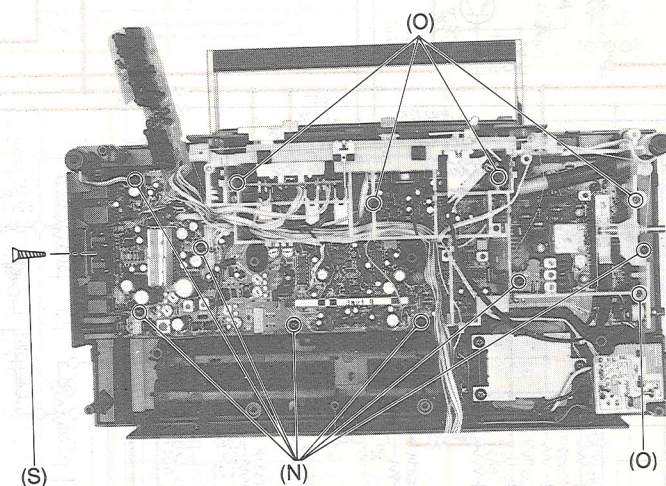
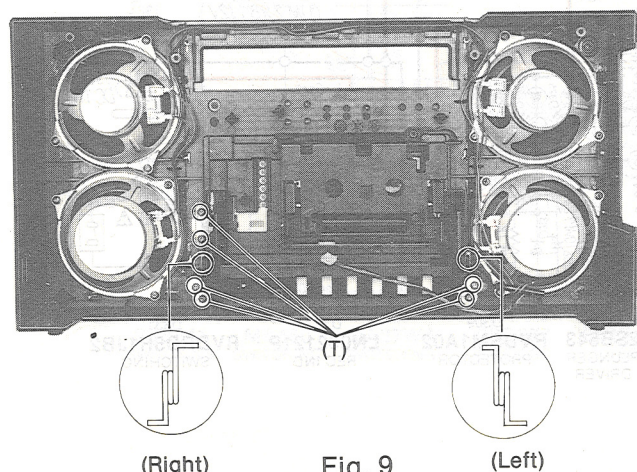


Fig. 7



(Right)

Fig. 9

(Left)

HOW TO DISASSEMBLY THE HANDLE

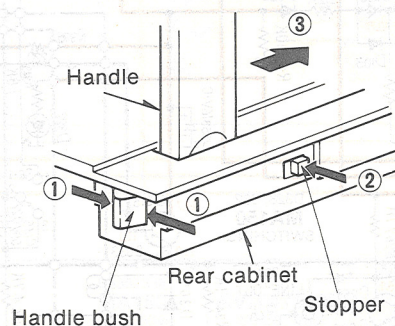


Fig. 10

Remove the handle by sliding it in the direction of the arrow ③ while pushing the handle bush and the stopper in the direction of the arrow ①, ②.

Ref. No.	Procedure	Shown in Fig. —.	To remove —.	Remove —.
1	1~5	4	Front Cabinet	Battery cover(A)×1
2		4		Screw (3×50)(B)×8
3		4		Knob(C)×1
4		4		Knob(D)×1
5		5		Socket(E)×1
6	1~6	5	Dial Scale	Push the rib in the direction of the arrow and pull up the dial scale(F)×2
7	1~5, 7	5	LED Circuit Board	Rib(G)×3
8	1~5, 8	5	TPS Circuit Board	Rib(H)×4
9	1~5, 9, 10	5	Mechanism	Screw (3×35)(I)×2
10		5		Socket(J)×4
11	1~6, 11, 12	6	Volume Circuit Board	Knob(K)×1
12		6		Screw (2×6)(L)×2
13	1~10, 13~15	6	Main Circuit Board	Knob(M)×3
14		7		Screw (3×35)(N)×7
15		7		Screw (3×10)(O)×5
16	1~10, 13~17	8	Band Switch	Knob(P)×1
17		8		Screw (3×6)(Q)×2
18	1~10, 13~15, 18	8	Dial Chassis	Screw (2.6×8)(R)×1
19	1~10, 13~15, 19	7	Jack Board	Screw (3×14)(S)×1
20	1~5, 20	9	Cassette Cover (*2)	Screw (3×8)(T)×6

- *1. When the tape is caught in the pinch roller, etc.
Remove this cap and release the tape by turning the pulley on the motor with the screwdriver in the direction of the arrow as shown in Fig. 4.
- *2. There are some differences in their appearance between spring (Right) and spring (Left).

DIAL THREADING

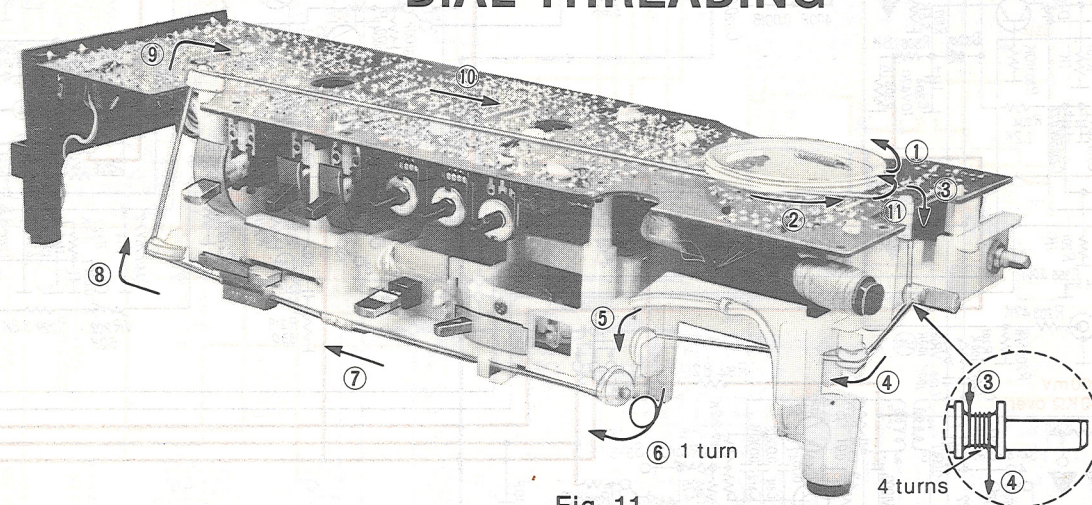


Fig. 11

■ DIAL SETTING POINT

Set the left side of the pointer to the point.

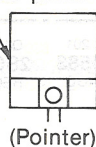


Fig. 12

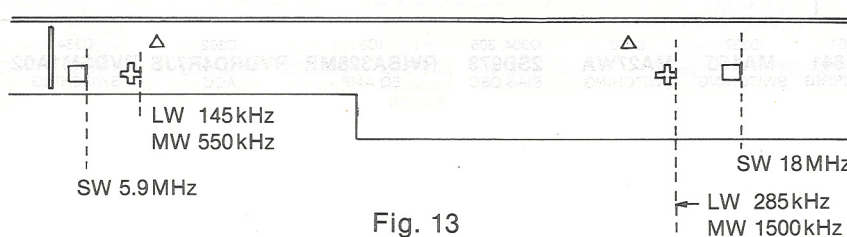
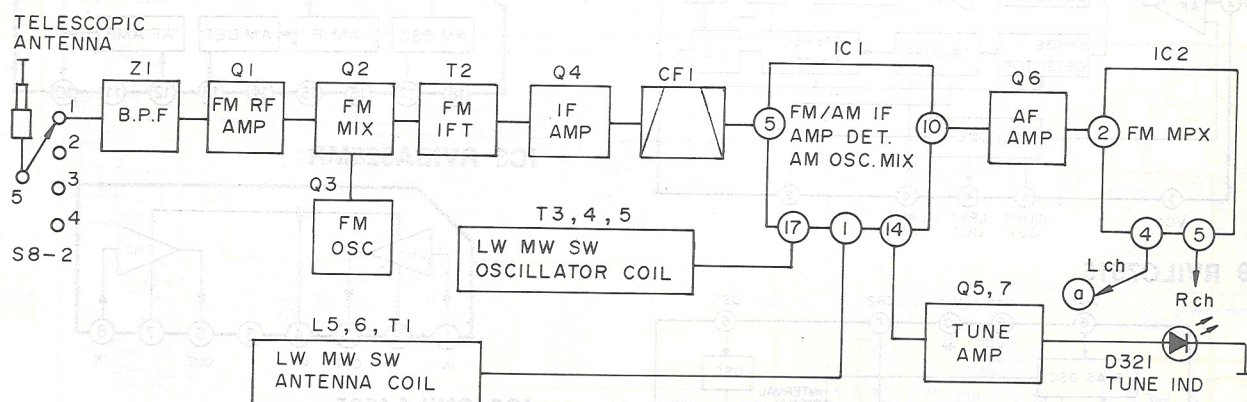
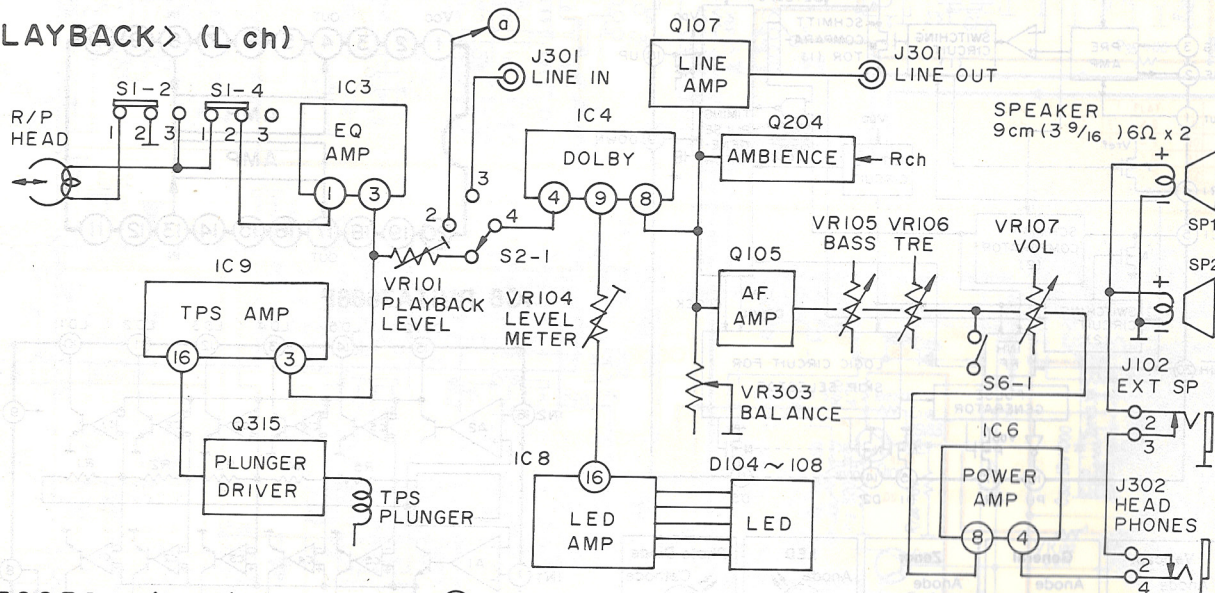


Fig. 13

<RADIO>



<PLAYBACK> (L ch)



<RECORD> (Lch)

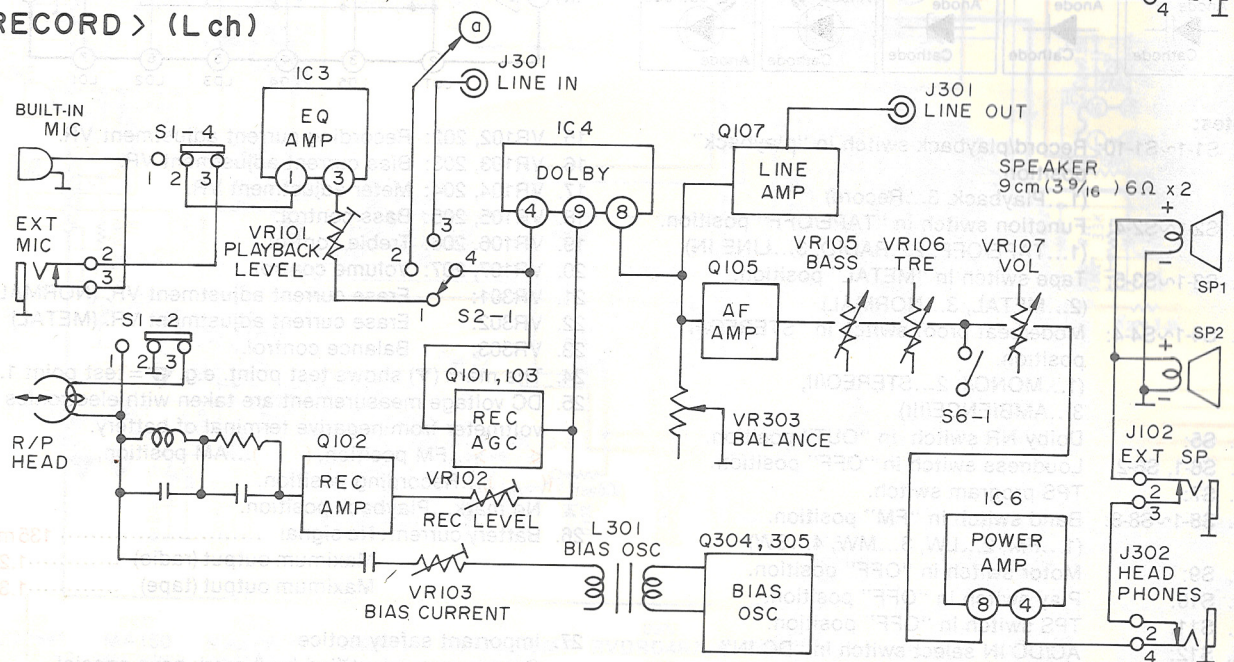
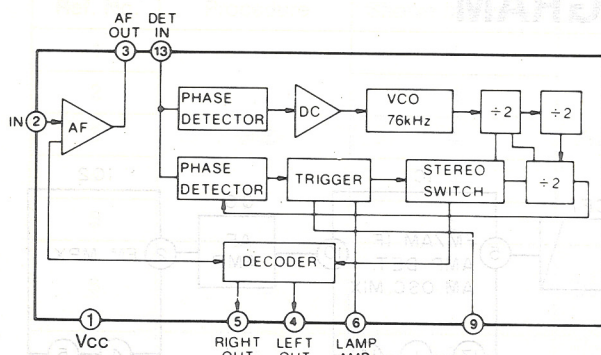
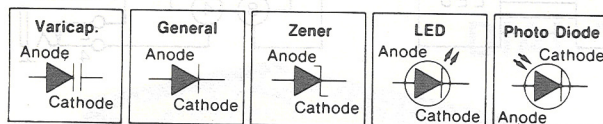
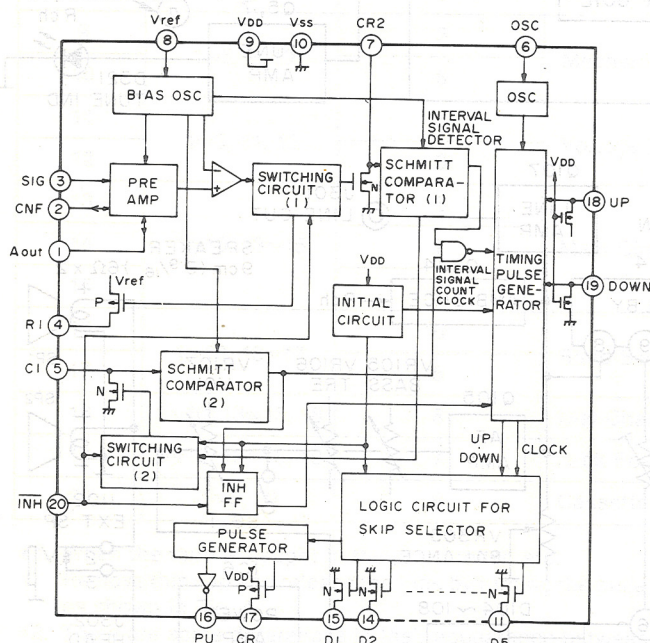


Fig. 14

IC2 RV1BA1330



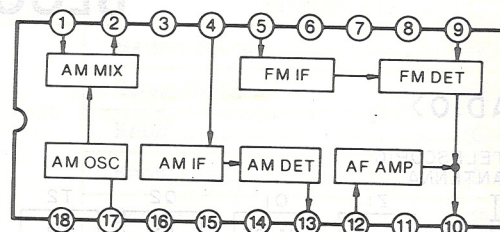
IC9 RVILC7515



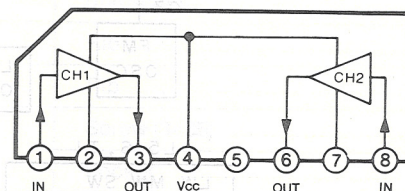
Notes:

1. S1-1~S1-10: Record/playback switch in "playback" position.
(1...Playback, 3...Record)
2. S2-1~S2-4: Function switch in "TAPE/OFF" position.
(1...TAPE/OFF, 2...RADIO, 3...LINE IN)
3. S3-1~S3-5: Tape switch in "METAL" position.
(2...METAL, 3...NORMAL)
4. S4-1~S4-4: Mode/beat proof switch in "STEREO/II" position.
(1...MONO/I, 2...STEREO/II, 3...AMBIENCE/III)
5. S5: Dolby NR switch in "OUT" position.
6. S6-1, S6-2: Loudness switch in "OFF" position.
7. S7: TPS program switch.
8. S8-1~S8-8: Band switch in "FM" position.
(1...FM, 2...LW, 3...MW, 4...SW)
9. S9: Motor switch in "OFF" position.
10. S10: Play switch in "OFF" position.
11. S11: TPS switch in "OFF" position.
12. S12: AC/DC IN select switch in "DC IN" position.
13. S13: Voltage select switch.
14. VR101, 201: Dolby adjustment VR.

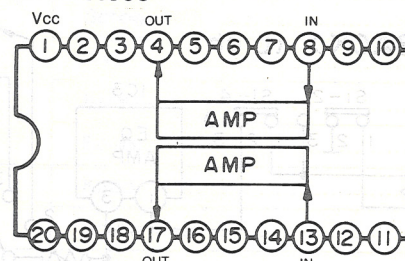
IC1 AN7220B



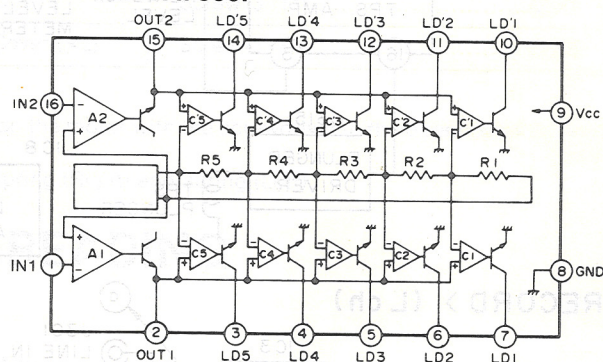
IC3 RV1BA328MR



IC6 RVILA4505



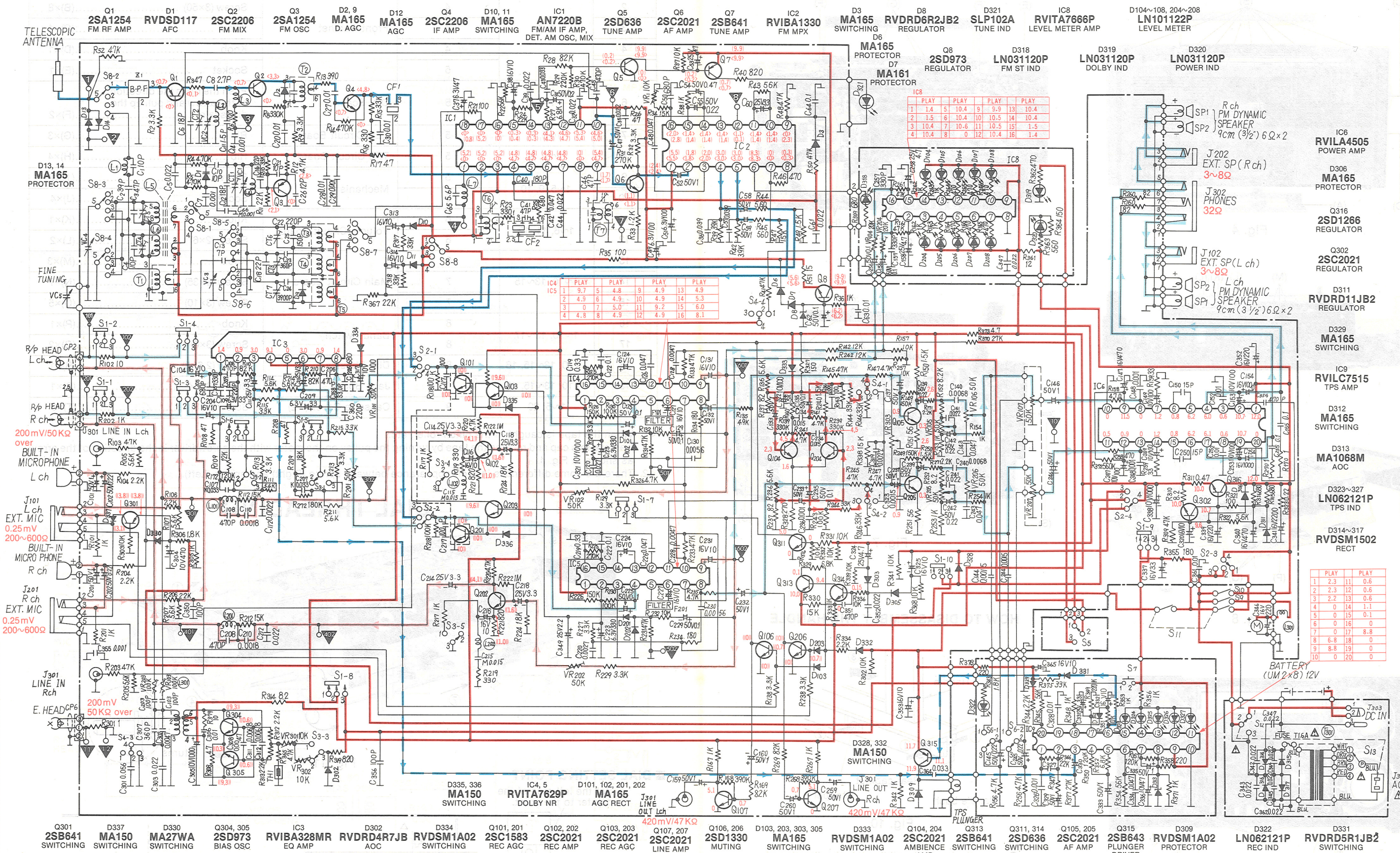
IC8 RVITA7666P



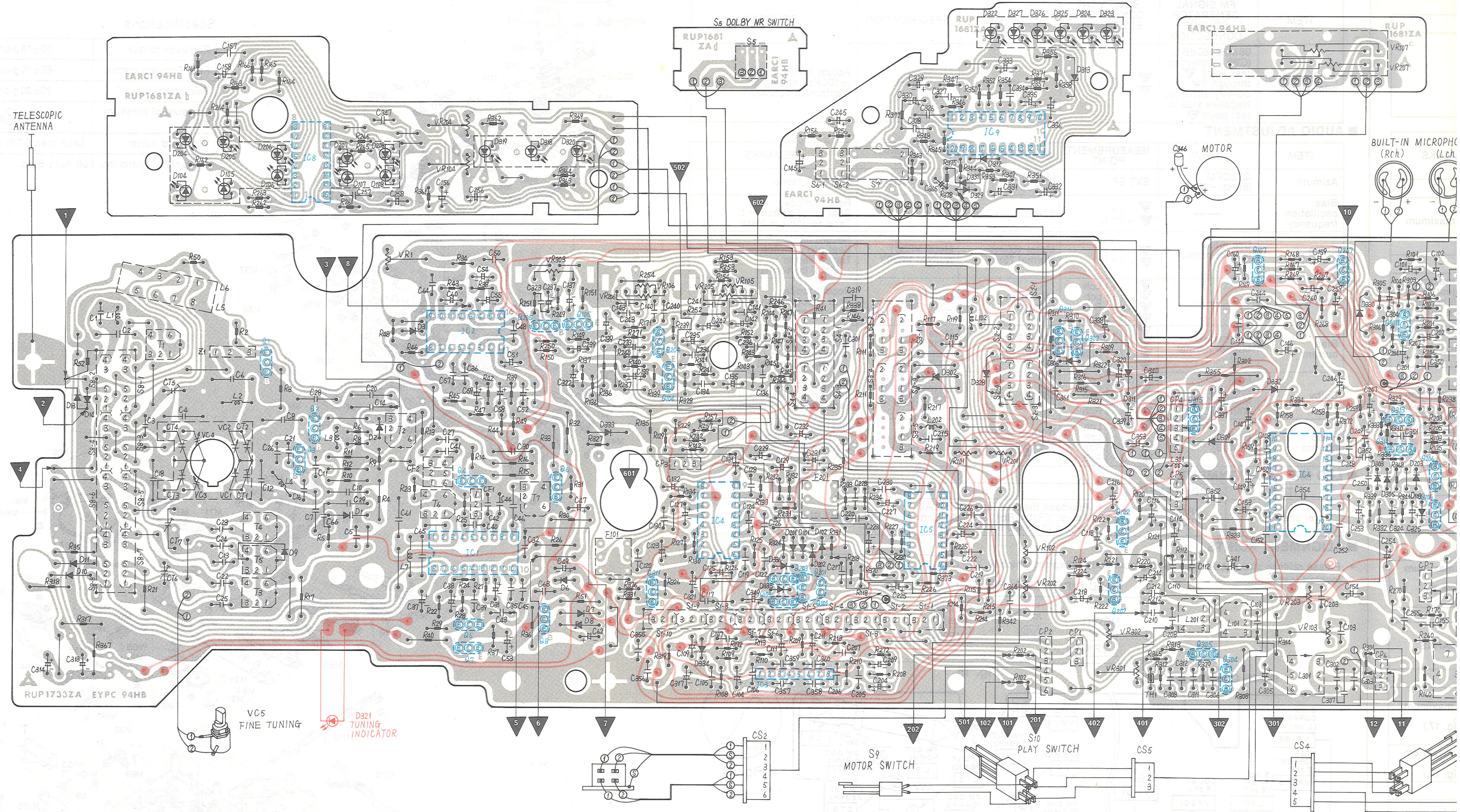
15. VR102, 202: Recording current adjustment VR.
16. VR103, 203: Bias current adjustment VR.
17. VR104, 204: Meter adjustment VR.
18. VR105, 205: Bass control.
19. VR106, 206: Treble control.
20. VR107, 207: Volume control.
21. VR301: Erase current adjustment VR. (NORMAL)
22. VR302: Erase current adjustment VR. (METAL)
23. VR303: Balance control.
24. The mark (▼) shows test point. e.g. ▼ = test point 1.
25. DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
< >...FM position, ()...AM position,
()...Recording position,
No mark...Playback position.
26. Battery current: No signal 135mA
Maximum output (radio) 1.2A
Maximum output (tape) 1.3A
27. Important safety notice
Components identified by ▲ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

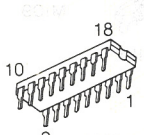
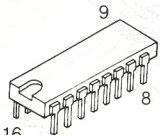
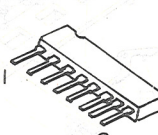
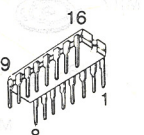
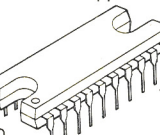
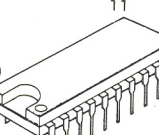
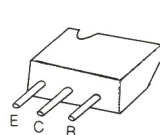
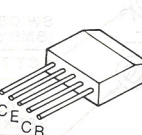
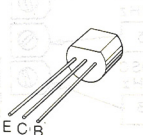
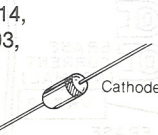
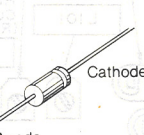
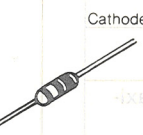
SCHEMATIC DIAGRAM MODEL RX-F32LS/LE

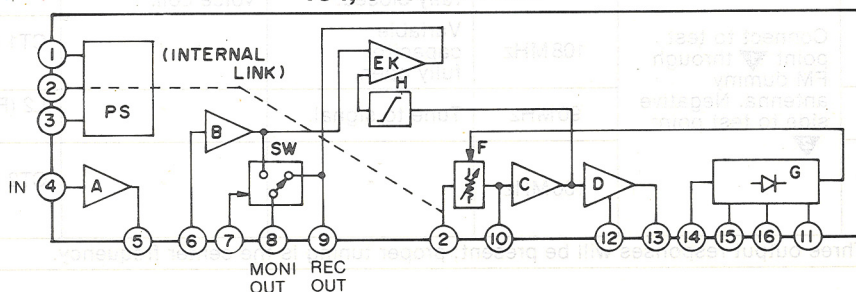
- + (B) Voltage Line
- Tape (PLAY BACK) Signal Line
- Radio (FM) Signal Line
- Tape (RECORD) Signal Line
- Level Meter Signal Line
- TPS Signal Line
- AMBIENCE Signal Line



CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM MODEL RX-F32LS/LE



 IC1	 IC2	 IC3	 IC4, 5, 8	 IC6	 IC9	Q1~8, 102~107, 202~207, 301, 302, 304, 305, 311, 313~315 	Q101, 201 	Q316 	D1~3, 6~11, 13, 14, 101~103, 201~203, 302, 303, 305, 306, 312, 322, 328~330, 334~337 	D309, 314~317, 333 	D311, 313 	Cathode 
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MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Set volume control to maximum.
2. Set bass and treble control to center.
3. Set band switch to LW, MW, SW or FM.
4. Set balance control to center.
5. Set dolby NR switch in "OFF".
6. Set Loudness switch in "OFF".
7. Set function switch to radio.
8. Set fine tuning to center.
9. Set power source voltage to 12V DC.
10. Output of signal generator should be no higher than necessary to obtain an output reading.

■ LW, MW and SW ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
AM-IF ALIGNMENT						
(1)	MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455kHz 470kHz (For U.K) 30% Mod. at 400Hz	Point of non-interference. (on/ about 600kHz)	Output meter across voice coil.	T6 (AM IFT) Adjust for maximum output.
LW-RF ALIGNMENT						
(2)	LW	"	145kHz	145kHz (Refer to Fig. 13.)	Output meter across voice coil.	T3 (LW OSC Coil) (* 1) L5 (LW ANT Coil) Adjust for maximum output. Adjust L5 by moving coil bobbin along ferrite core.
(3)	LW	"	285kHz	285kHz (Refer to Fig. 13.)	"	CT6 (LW OSC Trimmer) CT5 (LW ANT Trimmer) Adjust for maximum output. Repeat steps (2) and (3).
MW-RF ALIGNMENT						
(4)	MW	"	550kHz	550kHz (Refer to Fig. 13)	Output meter across voice coil.	T4 (MW OSC Coil) (* 1) L6 (MW ANT Coil) Adjust for maximum output. Adjust L6 by moving coil bobbin along ferrite core.
(5)	MW	"	1,500kHz	1,500kHz (Refer to Fig. 13.)	"	CT3 (MW OSC Trimmer) CT4 (MW ANT Trimmer) Adjust for maximum output. Repeat steps (4) and (5).
(* 1) Cement antenna bobbin with wax after completing alignment.						
SW-RF ALIGNMENT						
(6)	SW	Connect to test point 1 through ceramic capacitor (10pF). Negative side to test point 2.	5.9MHz	5.9MHz (Refer to Fig. 13.)	Output meter across voice coil.	T5 (SW OSC Coil) T1 (SW ANT Coil) Adjust for maximum output.
(7)	SW		18MHz	18MHz (Refer to Fig. 13.)	"	CT7 (SW OSC Trimmer) Adjust for maximum output. Repeat steps (6) and (7).

■ FM ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS	
	CONNECTIONS	FREQUENCY					
FM-IF ALIGNMENT							
(1)	FM	High side thru. 0.001 μ F to test point ∇ . Negative side to test point ∇ .	10.7 MHz (SWP.)	Point of non-interference. (on/ about 90MHz)	Connect vert. amp. of scope to test point ∇ . Negative side to test point ∇ .	T7 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 17.)
(2)	FM	"	"	"	"	T2 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 18.)
FM-RF ALIGNMENT							
(3)	FM		87.5MHz	Variable capacitor fully closed.	Output meter across voice coil.	L4 (FM OSC Coil)	(*2) Adjust for maximum output.
(4)	FM	Connect to test point ∇ through FM dummy antenna. Negative side to test point ∇ .	108MHz	Variable capacitor fully open.	"	CT1 (FM OSC Trimmer)	"
(5)	FM		90MHz	Tune to signal.	"	L2 (FM ANT Coil)	"
(6)	FM		106MHz	"	"	CT2 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3)~(6).

SEPARATION ALIGNMENT

ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	98MHz, 60dB (CW) Connect to test point 1 through FM dummy antenna. Negative side to test point 2.	8 ... (+) 7 ... (-)	VR1	19kHz	Adjust VR1, for 19kHz (± 100 Hz) reading on electronics counter.

AUDIO ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (8kHz, -20dB)	EXT SP	Maximum output.	Azimuth screw	Playback mode
Bias oscillation frequency	—	11 ... (+) 12 ... (-)	62kHz	L301	Record mode Beat proof switch → II Tape selector → Metal
Erase current	Use metal tape or normal tape	11 ... (+) 12 ... (-)	Metal 150mV Normal 75mV	Metal VR301 Normal VR302	Record mode Beat proof switch → II Tape selector → Metal or Normal
Bias trap	—	101 ... (+) Lch 102 ... (-) Lch 201 ... (+) Rch 202 ... (-) Rch	Maximum output.	L101 (Lch) L201 (Rch)	Record mode Beat proof switch → II Tape selector → Metal
Bias current	Use metal tape or normal tape	101 ... (+) Lch 102 ... (-) Lch 201 ... (+) Rch 202 ... (-) Rch	Metal 9.5mV Normal 5.0 $\pm$ 0.5mV	Metal VR103 (Lch) Normal VR203 (Rch)	Record mode Beat proof switch → II Tape selector → Metal or Normal
Dolby	MMT-150 200nWb/m MODULATED 400Hz TONE	601 ... (+) Lch 501 ... (-) Lch 502 ... (+) Rch 503 ... (-) Rch	580mV	VR101 (Lch) VR201 (Rch)	Playback mode Beat proof switch → II Tape selector → Normal
Head current	LINE IN (-14dB)	101 ... (+) Lch 102 ... (-) Lch 201 ... (+) Rch 202 ... (-) Rch	Normal 0.35mV Metal 0.58 $\pm$ 0.05mV	VR102 (Lch) VR202 (Rch)	Playback mode Beat proof switch → II Tape selector → Normal or Metal

LED METER ALIGNMENTS

ITEM	ADJUSTMENT	REMARKS
Level check	VR104 (Rch) VR204 (Lch)	1. Playback the test tape (QZZCLA). 2. Adjust VR104 (Rch) & VR204 (Lch) so that the third LED from the left begins to illuminate.

ALIGNMENT POINTS

- * Please refer to circuit board and wiring connection diagram which is located test point.

(LED CIRCUIT BOARD)

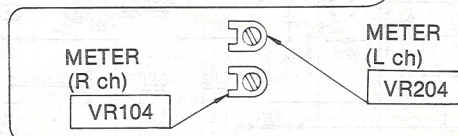


Fig. 15

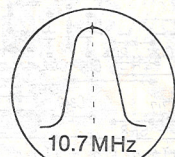


Fig. 17

(MAIN CIRCUIT BOARD)

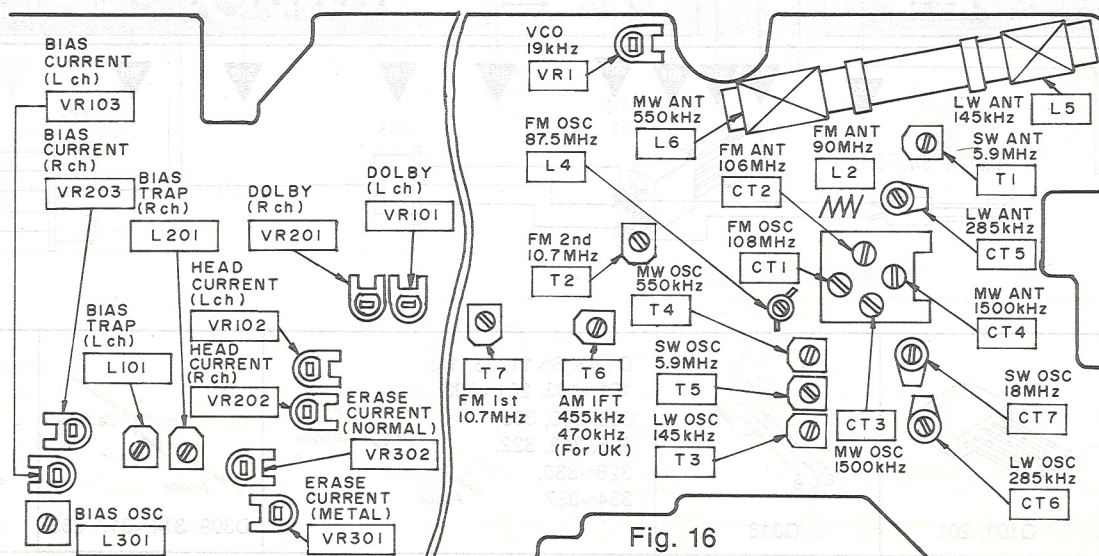


Fig. 16

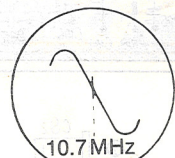


Fig. 18

ELECTRICAL PARTS LOCATION

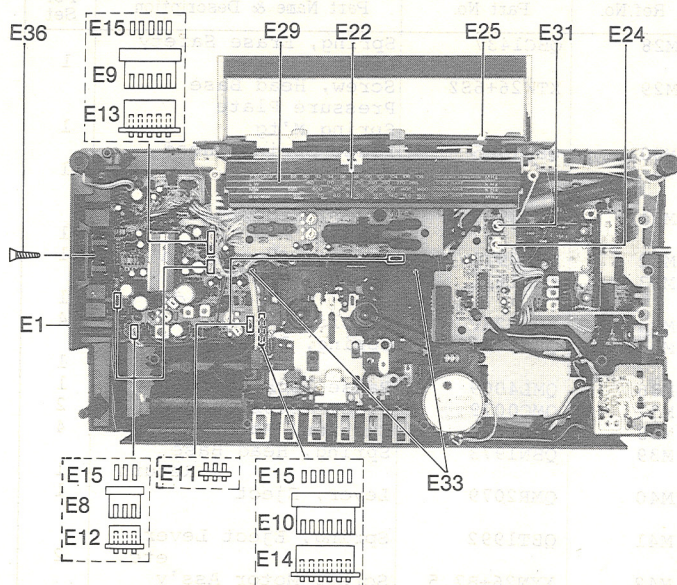


Fig. 21

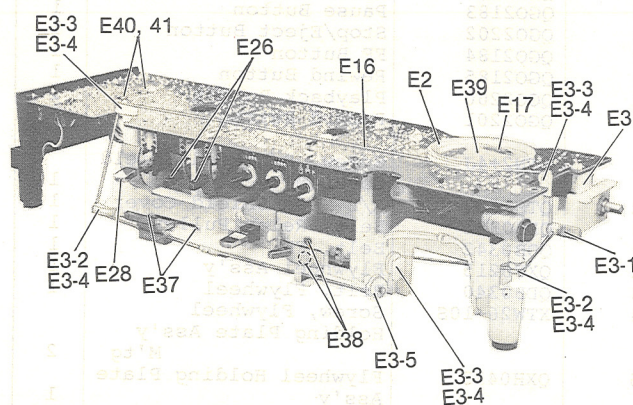


Fig. 23

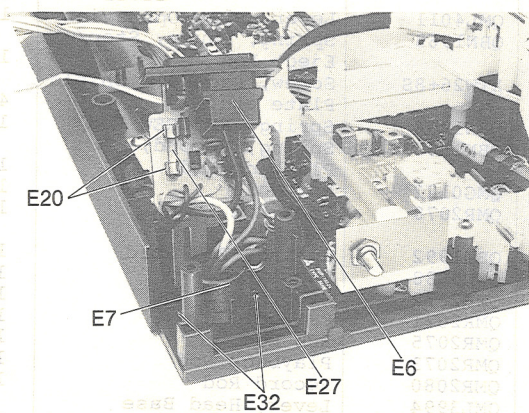


Fig. 25

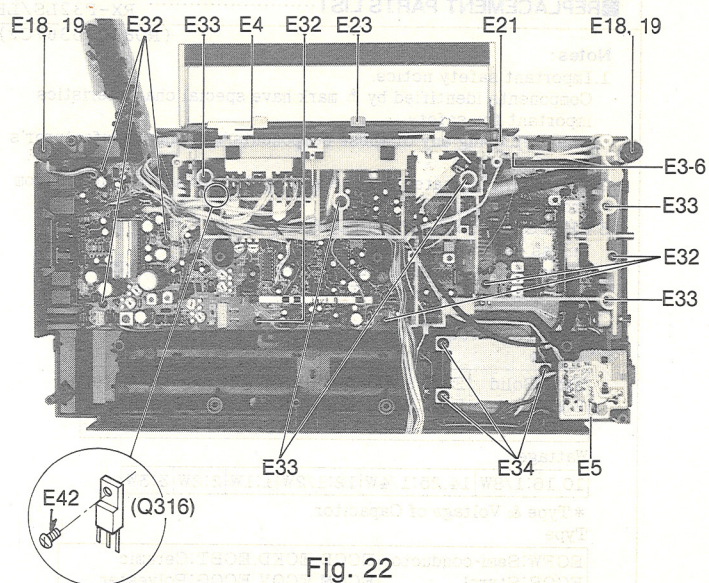


Fig. 22

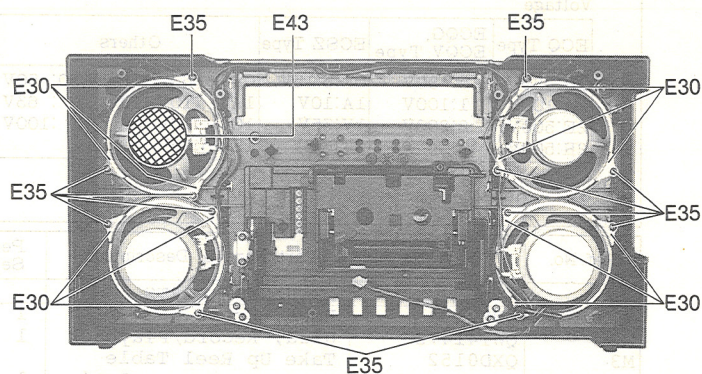


Fig. 24

CABINET PARTS LOCATION

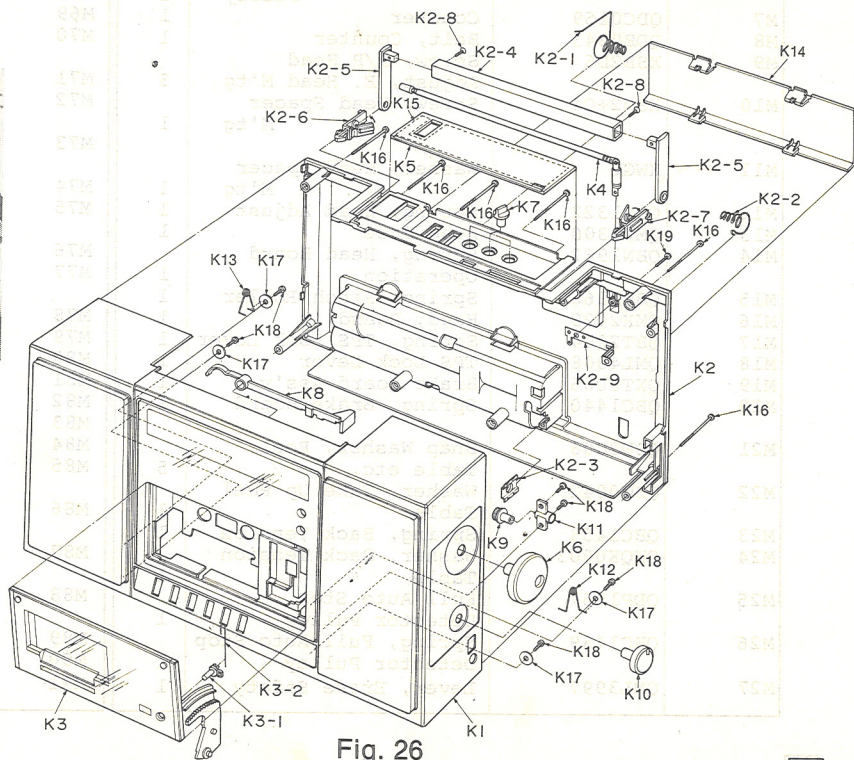


Fig. 26

REPLACEMENT PARTS LIST..... RX-F32LS/LE

Notes:

- 1.Important safety notice.
Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
- 2.The S mark indicates service standard parts and may differ from production parts.
- 3.RESISTORS & CAPACITORS
Unless otherwise specified.
All resistors are in OHMS (Ω) K=1000Ω, M=1000kΩ
All capacitors are in MICRO FARADS (μF) P=μμF

*Type & Wattage of Resister
Type

ERC:Solid	ERX: Metal Film	ERW: Wirewound Resister
ERD: Carbon	ERG: Metal Oxide	ERS: Fusible Resister
RRD: Chip	ERO: Metal Film	ERF: Cement Resister

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W
------------	------------	---------	------	------	------

*Type & Voltage of Capacitor
Type

ECFW: Semi-conductor	ECED, ECKD, ECBT: Ceramic
ECQS: Styrol	ECQM, ECQV, ECQG: Polyester
ECUX: Chip	ECEA, ECSZ: Electrolytic
ECMS: Mica	ECQP: Polypropylene

Voltage

ECQ Type	ECQG, ECQV, Type	ECSZ Type	Others		
1H: 50V	0.5: 50V	OF: 3.15V	OJ: 6.3V	1H, 1V, 50: 50V	
2A: 100V	1: 100V	1A: 10V	1A: 10V	1J: 63V	
2E: 500V	2: 200V	1V: 35V	1C: 16V	2A: 100V	
2H: 500V		OJ: 6.3V	1E, 25: 25V		

Ref. No.	Part No.	Part Name & Description	Per Set
		MECHANISM PARTS	
M1	QWY2154	Head, Erase	1
M2	QWY4147Z	Head, Record/Playback	1
M3	QXD0152	Take Up Reel Table	1
		Ass'y	1
M4	QXD0153	Back Tension Table	1
		Ass'y	1
M5	QXL1636	Pinch Roller Ass'y	1
M6	QXU0329	Motor Ass'y With	1
		Pulley	1
M7	QDC0159	Counter	1
M8	QDB0343	Belt, Counter	1
M9	XSB2D6	Screw, R/P Head	1
		Adjust, E. Head M'tg	3
M10	XSN2+C4	Screw, Head Spacer	1
		M'tg	1
M11	XWG2	Washer, Head Spacer	1
		M'tg	1
M12	QBC1322	Spring, Head Adjust	1
M13	QMZ1300	Head Base	1
M14	QBN1962	Spring, Head Board	1
		Operation	1
M15	QBN1966	Spring, Pinch Roller	1
M16	QMK2028	Head, Board	1
M17	QBT2004	Spring, TPS Lock Lever	1
M18	QML4008	TPS Lock Lever	1
M19	QXT0005	Brake Board Ass'y	1
M20	QBC1440	Spring, Brake Board	1
M21	QBW2008	Snap Washer, Reel	1
		Table etc.	5
M22	QBW0042	Washer, Take Up Reel	1
		Table	1
M23	QBC1453	Spring, Back Tension	1
M24	QWQK0003	Washer, Back Tension	1
		Table	1
M25	QDP1957	Full Auto Stop	1
		Detector Pulley	1
M26	QBC1439	Spring, Full Auto Stop	1
		Detector Pulley	1
M27	QML3997	Lever, Erase Safety	1

Ref.No.	Part No.	Part Name & Description	Per Set
M28	QBC1437	Spring, Erase Safety	1
		Lever	1
M29	XTW26+6SZ	Screw, Head Base	1
		Pressure Plate	1
		Spring M'tg	1
M30	QBP1985	Plate Spring, Head	1
		Base Pressure	1
M31	QML3995	Lever, Stop/Eject	1
		Change	1
M32	QBN1971	Spring, Change Rod	1
M33	QBN1711	Spring, Cassette	1
		Holder	1
M34	XUEV25V	Circlip	4
M35	QBC1436	Spring, Pause Lock	1
		Board	1
M36	QML4009	Pause Lock Board	1
M37	QMC0079	Pipe, Motor Cushion	2
M38	QBG1420	Cushion, Motor Ass'y	4
M39	QBN1973	Spring, Head Base	1
		Return	1
M40	QMR2079	Lever, Eject	1
M41	QBT1992	Spring, Eject Lever	2
		etc.	
M42	XYN26+B7.5	Screw, Motor Ass'y	2
		M'tg	2
M43	QDK1012	Steel Ball	3
M44	QMN2822	Axis, Control Button	1
M45	QGO2183	Pause Button	1
M46	QGO2202	Stop/Eject Button	1
M47	QGO2184	FF Button	1
M48	QGO2185	Rewind Button	1
M49	QGO2200	Playback Button	1
M50	QGO2201	Record Button	1
M51	XTN2+4J	Screw, R/P Head Shield	1
		Cover M'tg	1
M52	QTS1603	R/P Head Shield Cover	1
M60	QDB0351	Belt, Relay Pulley	1
M61	QDB0342	Belt, FF	1
M62	QXF0215	Flywheel Ass'y	1
M63	QDB0340	Belt, Flywheel	1
M64	XTW26+10S	Screw, Flywheel	1
		Holding Plate Ass'y	2
		M'tg	2
M65	QXH0433	Flywheel Holding Plate	1
		Ass'y	1
M66	QBT1997	Spring, Flywheel Earth	1
M67	QBC1302	Spring, Flywheel	1
M68	QBJ3098	Washer, Flywheel	1
M69	QML3999	Lever, Play Action	1
M70	QBT1990	Spring, Play Action	1
		Lever	1
M71	QML4011	Lever, Play Operation	1
M72	QBN1965	Spring, Pause, Stop/	1
		Eject Rod	1
M73	XTW26+8S	Screw, Rod Hold Shield	4
		Plate etc.	1
M74	QBN1964	Spring, FF, REW Rod	1
M75	QBN1963	Spring, Record,	1
		Playback Rod	1
M76	QMG0122	Rod Hold	1
M77	QMR2078	Lock Rod	1
M78	QBT1992	Spring, Rod Hold	1
M79	QXR0888	Pause Rod	1
M80	QMR2072	Stop/Eject Rod	1
M81	QMR2071	FF Rod	1
M82	QMR2075	REW Rod	1
M83	QMR2073	Playback Rod	1
M84	QMR2080	Record Rod	1
M85	QML3994	Lever, Head Base	1
		Operation	1
M86	QBT1991	Spring, Head Base	1
		Operation Lever	1
M87	XUEV3V	Circlip	4
M88	QBW2016	Washer, Full Auto	1
		Drive Gear M'tg	1
M89	QDG1298	Full Auto Drive Gear	1
M90	QDP1954	Relay Pulley	1
M91	QDG1299	Reverse Gear	1

Ref. No.	Part No.	Part Name & Description	Per Set	Ref. No.	Part No.	Part Name & Description	Per Set
M92	QDG1297	REW Gear	1	D8	RVDRD6R2JB2	Diode (Si)	1
M93	QXL1646	FF Lever Ass'y	1	D104~108,			
M94	QMR2076	TPS Switch Control Rod	1	204~208	LN101122P	LED (LEVEL METER)	1
M95	QBT1993	Spring, Full Auto Stop	1	D302	RVDRD4R7JB	Diode (Si)	1
		Incorrect Action		D309, 333,			
		Stop Lever	1	334	RVDSM1A02	Diode (Si)	3
M96	QML4003	Lever, Full Auto Stop	1	D311	RVDRD11JB2	Diode (Si)	1
		Incorrect Action		D313	MA1068M	Diode (Si)	1
		Stopper	1	D314~317	RVDSM1502	Diode (Si)	4
M97	QXL1644	Lever Ass'y, Idler	1	D318~320	LN031120P	LED (POWER & FM ST)	1
		With Spring	1	D322~327	LN062121P	LED (REC & TPS)	1
				D330	MA27WA	Diode (Si)	1
M98	QTS1604	Shield Plate	1				
M99	XTN2+6J	Screw, Leaf Switch S11	1	D331	RVDRD5R1JB2	Diode (Si)	1
		M'tg	1				
M100	QML3996	Lever, Pause Action	1				
M101	QML4005	Lever, Pause Action	1				
		Relay	1				
M102	QME0166	Plunger	1				
M103	XTN2+5F	Screw, Leaf Switch S9	1	TH1	ERTD2FHL332S	THERMISTORS Thermistor	1
		M'tg	1				
M104	QBN1968	Spring, TPS Switch	1				
		Control Rod	1				
M105	QMA4587	Bracket, Leaf Switch	1	L2	RLD4Y54	COILS AND TRANSFORMERS Antenna Coil, FM	1
M106	XUC2FT	Circlip, Record Lever	1	L4	RLO4N173	Oscillator Coil, FM	1
M107	QML3998	Lever, Record	1	L5,6	RLF6W6	Antenna Coil, LW, MW	1
				LL01,201	QLQM1531	Coil, Trap	2
				LL02,202	RLQZ8221	Inductor	2
				L301	RLO9C28	Coil, Bias	1
M108	QBN1972	Spring, Record Lever	1	T1	QLA3M8	Antenna Coil, SW	1
M109	QBN1969	Spring, REC Release	1	T2,7	RLI4M101	IFT, FM 1st, 2nd	2
		Stop Lever	1	T3	RLO1M4	Oscillator Coil, LW	1
M110	QML4001	Lever, Record Operation	1	T4	RLO2M4	Oscillator Coil, MW	1
M111	QML4007	Lever, REC Release	1				
		Stopper	1				
M112	QML4006	Lever, Switch Control	1	T5	RLO3M31	Oscillator Coil, SW	1
M113	QMR2077	Eject Slide Rod	1	T6	RLT2M102	IFT, AM	1
M114	QBN1970	Spring, Full Auto Stop	1	T301	RLT5Z4G3A	Power Transformer	1
		Detector Lever Ass'y	1				
M115	QXL1637	Full Auto Stop	1				
		Detector Lever Ass'y	1				
M116	QDG1303	Pause, TPS Operation	1				
		Gear	1				
M117	QDG1302	Head Base Operation	1				
		Gear	1				
M118	QBT1994	Spring, Pause Action	1				
		Lever	1				
M119	QXK2738	Mechanism Base Ass'y	1				
M120	QMA4705	Bracket, Erase Head	1				
		INTEGRATED CIRCUITS, TRANSISTORS AND DIODES					
IC1	AN7220B	IC	1	VR1,301,			
IC2	RVIBA1330	IC	1	302	EVNM4AA00B14	Variable Resistor,	
IC3	RVIBA328MR	IC	1			10k Ω (B)	3 S
IC4,5	RVITA7629P	IC	2	VR101,102,			
IC6	RVILA4505	IC	1	201,202	EVNM4AA00B54	Variable Resistor,	
IC8	RVITA7666P	IC	1			50K Ω (B)	4 S
IC9	RVILC7515	IC	1	VR103,203	EVNM4AA00B15	Variable Resistor,	
Q1,3	2SA1254B	Transistor (Ge)	2			100K Ω (B)	2 S
Q2,4	2SC2206B	Transistor (Si)	2	VR104,204	EVNM4AA00B24	Variable Resistor,	
Q5,311,314						20K Ω (B)	2 S
	2SD636R	Transistor (Ge)	3	VR105,106,			
				205,206	EWCUAF15A54	Variable Resistor,	
Q6,102~105,						50K Ω (A)	2
202~205,				VR107,207	EVBV74S15B54	Variable Resistor,	
207,302						50K Ω (B)	1
	2SC2021MLNS	Transistor (Si)	12	VR303	EWHN4AF15G54	Variable Resistor,	
Q7,301,313						50K Ω (G)	1
	2SB641R	Transistor (Ge)	3				
Q101,201	2SC1583F	Transistor (Si)	1				
Q106,206	2SD1330R	Transistor (Si)	2				
Q8,304,305							
	2SD973R	Transistor (Si)	3				
Q315	2SB643R	Transistor (Ge)	1				
Q316	2SD1266R	Transistor (Si)	1				
D1	RVDSM117	Diode (Si)	1				
D2,3,6,9,							
101~103,							
303,305,							
306,312							
329,335,							
336							
	MA165	Diode (Si)	19				
D7,10,11,							
328,332,							
337							
	MA161	Diode (Si)	6				

Ref. No.	Part No.	Part Name & Description	Per Set	Ref. No.	Part No.	Part Name & Description	Per Set
S2,4	RST3D17Z	Switch,Function Mode Beat Proof	2	K3-2	RUS497Z	Spring, Counter Reset Button	1
S3	RST2F08Z	Switch, Tape	1	K4	XEARR228EAY	Telescopic Antenna	1
S5,6	RSH2B24X	Switch, Dolby NR, Loudness	2	K5	RYEXF32LSXG1	Top Cover Ass'y (Pearl Silver)	1
S7	RSH1A20Z	Switch, TPS Program	1	K5	RYEXF32LSXG	Top Cover Ass'y (Metallic Brown)	1
S8	ESAll184130	Switch, Band	1	K5	RYEXF32LEXE2	Top Cover Ass'y (Metallic Red) For U.K.	1
S9	QSB0236	Switch, Motor	1	K6	RBN640Z	Knob, Tuning	1
S10	QSB0277	Switch, Play	1	K7	RBN606X1	Knob, Volume (Pearl Silver)	3
S11	QSB0254	Switch, TPS	1	K7	RBN606X	Knob, Volume (Metallic Brown) (Metallic Red)	3
S12	Refer to J303	Switch, AC/DC IN	1	K8	RUB281Z	Lock Lever	1
S13	RSR4A06Z	Switch, Voltage Selector	1 ▲	K9	RDG5697Z	Gear, Cassette Cover	1
		JACKS		K10	RBN642Z	Knob, Fine Tuning	1
J101,201	RJJ1D7Z	Jack, EXT. MIC	2	K11	RME297Z	Bearing, Gear	1
J102,202	QJA0172A	Jack, EXT SP	2				
J301	RJF1091Y	Jack, LINE IN/OUT	1	K12	RUS500Z	Spring, Cassette Cover (Right)	1
J302	RJJ1D11Z	Jack, Phones	1	K13	RUS501Z	Spring, Cassette Cover (Left)	1
J303	QJS0329	Jack, AC/DC IN	1 ▲	K14	RYNXF35N8	Battery Cover Ass'y (Pearl Silver)	1 ▲
		CABINET PARTS		K14	RYNXF35N1	Battery Cover Ass'y (Metallic Brown)	1 ▲
K1	RYMXF32LSX91	Front Cabinet Ass'y (Pearl Silver)	1 ▲	K14	RYNXF35N2	Battery Cover Ass'y (Metallic Red) For U.K.	1 ▲
K1	RYMXF32LSXG8	Front Cabinet Ass'y (Metallic Brown)	1 ▲	K15	RQT4318X	Operation Expression Sheet	1
K1	RYMXF32LEXE2	Front Cabinet Ass'y (Metallic Red), For U.K.	1 ▲	K16	XTN3+50G	Screw, Cabinet M'tg	8
K1	RYMXF32LEXE8	Front Cabinet Ass'y (Metallic Brown), For U.K.	1 ▲	K17	XWF3F12	Washer, Cassette Cover Spring M'tg	4
K2	RYFXF32LSXG8	Rear Cabinet Ass'y (Pearl Silver)	1 ▲	K18	XTV3+8G	Screw, Cassette Cover Spring M'tg	6
K2	RYFXF32LSXG1	Rear Cabinet Ass'y (Metallic Brown)	1 ▲	K19	XSN3+12FN	Screw, Antenna M'tg (Pearl Silver)	1
K2	RYFXF32LEXE2	Rear Cabinet Ass'y (Metallic Red), For U.K.	1 ▲	K19	XSN3+12FZ	Screw, Antenna M'tg (Metallic Brown) (Metallic Red)	1
K2	RYFXF32LEXE1	Rear Cabinet Ass'y (Metallic Brown), For U.K.	1 ▲			ELECTRICAL PARTS	
K2	RYFXF32LSXZ8	Rear Cabinet Ass'y (Pearl Silver), F.R. Germany	1 ▲	E1	RKE427Z	Jack Board (Pearl Silver)	1
K2	RYFXF32LSXZ1	Rear Cabinet Ass'y (Metallic Brown), F.R. Germany	1 ▲	E1	RKE427Z2	Jack Board (Metallic Brown)	1
K2-1	RJC969Z	Spring, Battery +,-	1	E1	RKE427Z1	Jack Board (Metallic Red)	1
K2-2	QBN8009	Spring, Battery -	1	E2	RDD581Z	Drum Dial	1
K2-3	QJB0111	Terminal Battery +	1	E3	RZAXF32LSXG	Dial Chassis Ass'y	1
K2-4	RKX275Z	Handle (Pearl Silver)	1	E3-1	RDF233Z	Shaft, Tuning	1
K2-4	RKX275Z2	Handle (Metallic Brown)	1	E3-2	QDP1477	Roller, Dial	2
K2-4	RKX275Z1	Handle (Metallic Red), For U.K.	1	E3-3	QDP1678	Roller, Dial	3
K2-5	RKX274Z	Arm, Handle	2	E3-4	QMN8001	Shaft, Roller	5
K2-6	RKT137Z	Bush, Handle(Left) (Pearl Silver)	1	E3-5	RDR50Z	Roller, Dial	1
K2-6	RKT137Z2	Bush, Handle (Left) (Metallic Brown)	1	E3-6	XUC3FT	Circlip	1 S
K2-6	RKT137Z1	Bush, Handle (Left) (Metallic Red) For U.K.	1	E4	RYTXF35N	Slide Knob Ass'y	1
K2-7	RKT136Z	Bush, Handle (Right) (Pearl Silver)	1	E5	RUP1734Z	Power Supply Circuit	1 ▲
K2-7	RKT136Z2	Bush, Handle (Right) (Metallic Brown)	1	E6	QTW1135	Cover, AC Socket	1 ▲
K2-7	RKT136Z1	Bush, Handle (Right) (Metallic Red) For U.K.	1	E7	RUV387Z	Cover, Voltage Selector	1 ▲
K2-8	XTS3+10GFN	Screw, Handle M'tg (Pearl Silver)	2	E8	RJS3L3Z	Socket, 3Pin (CP5,6,7)	3
K2-8	XTS3+10GZ	Screw, Handle M'tg (Metallic Brown) (Metallic Red)	2	E9	RJS5L3Z	Socket, 5Pin (CP4)	1
K2-9	RJT810Z	Terminal, Antenna	1	E10	RJS6L3Z	Socket, 6Pin (CP2)	1
K3	RYQXF35N	Cassette Cover Ass'y	1	E11	QJP1921TN	Plug, 3Pin (CP1,3)	2
K3-1	RBC471Z	Button, Counter Reset	1	E12	RJP3G4Z	Plug, 3Pin (CP5,6,7)	3
				E13	RJP5G4Z	Plug, 5Pin (CP4)	1
				E14	RJP6G4Z	Plug, 6Pin (CP2)	1
				E15	RJT707Z	Terminal, Socket	20
				E16	RDZ05Z	Cord, Dial (110cm)	1 ROLI
				E17	QBT1320	Spring, Dial	1
				E18	RJM142Z	Built-in Microphone	2
				E19	QBG1616	Cover, Microphone	2
				E20	QTF1054	Holder, Fuse	2
				E21	RHR163Z	Guide Ring, LED	1
				E22	RZPXF35N	Pointer Ass'y	1
				E23	RBC473Y	Button, Dolby	1

Ref. No.	Part No.	Part Name & Description	Per Set	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
E24	RBC472Z	Button, TPS	1		RESISTORS		R135	ERD25FJ472	4.7K S
E25	RBS213Z	Knob, Band	1	R2	ERD10TJ332	3.3K S	R136	ERD10TJ562	5.6K S
E26	RBS212Z1	Knob, Selector (Pearl Silver)	2	R3	ERD25FJ470	47 S	R137	ERD10TJ820	82 S
E26	RBS212Z	Knob, Selector (Metallic Brown)	2	R4	ERD25TJ474	470K S	R138	ERD10TJ332	3.3K S
E27	XBA2C16TRO	Fuse (Tl.6A)	1	R5	ERD10TJ474	470K S	R139	ERD10TJ334	330K S
E28	RBS211Z	Knob, Function	1	R6	ERD10TJ101	100 S	R140	ERD10TJ152	1.5K S
E29	RKD637X	Scale, Dial	1	R8	ERD10TJ334	330K S	R141	ERD10TJ472	4.7K S
E29	RKD637W	Scale, Dial, For U.K.	1	R9	ERD10TJ332	3.3K S	R142	ERD10TJ123	12K S
E29	RKD637V	Scale Dial, F.R.Germany	1	R10	ERD25FJ333	33K S	R143	ERD10TJ104	100K S
E30	QKT1364	Bracket, Speaker	12	R11	ERD25FJ223	22K S	R144	ERD10TJ333	33K S
E31	RBS210Z	Button, Loudness	1	R12	ERD25FJ472	4.7K S	R145	ERD10TJ473	47K S
E32	XTV3+10GR	Screw, P.C.B. M'tg	9	R13	ERD25FJ561	560 S	R146	ERD10TJ333	33K S
E33	XTN3+35GR	Screw, P.C.B. & Mechanism M'tg	7	R14	ERD10TJ474	470K S	R147	ERD10TJ472	4.7K S
E34	XTV4+12JR	Screw, Power Transformer M'tg	3	R15	ERD25FJ151	150 S	R149	ERD10TJ154	150K S
E35	XTW3+8Q	Screw, Speaker M'tg	12	R16	ERD25FJ331	330 S	R150	ERD10TJ152	1.5K S
E36	XTS3+14GN	Screw, Jack Board M'tg (Pearl Silver)	1	R17	ERD25FJ470	47 S	R151	ERD10TJ560	56 S
E36	XTS3+14GZ	Screw, Jack Board M'tg (Metallic Brown)	1	R21	ERD25FJ101	100 S	R152	ERD10TJ822	8.2K S
E37	XSN2+6	Screw, Volume Switch M'tg	2	R22	ERD10TJ563	56K S	R153	ERD10TJ102	1K S
E38	XSS3+6S	Screw, Band Switch M'tg	2	R23	ERD10TJ331	330 S	R154	ERD10TJ102	1K S
E39	XSN26+W8	Screw, Dial Drum M'tg	1	R24	ERD10TJ222	2.2K	R156	ERD10TJ472	4.7K S
E40	XSN3+10S	Screw, Heat Shink M'tg	2	R25	ERD10TJ681	680 S	R157	ERD10TJ103	10K S
E41	XWG3	Washer, Heat Shink M'tg	2	R26	ERD25FJ470	47 S	R158	ERD10TJ471	470 S
E42	XTN3+10F	Screw, Transistor(Q316) M'tg	1	R27	ERD10TJ682	6.8K S	R159	ERD10TJ330	33 S
E43	QTTK0054	Cap, Speaker	1	R28	ERD10TJ823	82K S	R160	ERD10TJ820	82 S
		ACCESSORIES		R29	ERD10TJ224	220K S	R161	ERD10TJ473	47K S
	RJA20Z	Power Cord, AC	1	R30	ERD25TJ474	470K S	R162	ERD10TJ102	1K S
	RJA43Z	Power Cord, AC, For U.K.	1	R31	ERD10TJ274	270K S	R163	ERD10TJ102	1K S
	QQC1023	Caution tag, For U.K.	1	R32	ERD25FJ332	3.3K S	R164	ERD10TJ471	470 S
	RQT4226Z	Caution tag, For U.K.	1	R33	ERD25FJ122	1.2K S	R165	ERD10TJ471	470 S
		PACKING MATERIALS		R34	ERD10TJ153	15K S	R166	ERD10TJ471	470 S
	RPK1616Z	Gift Box	1	R35	ERD25FJ101	100 S	R167	ERD10TJ102	1K S
	RPN9435Z	Pad	1	R36	ERD25FJ681	680 S	R168	ERD10TJ394	390K S
	XZB40x60A01	Polyethylene Cover	1	R37	ERD10TJ103	10K S	R169	ERD10TJ823	82K S
	XZB10x30A02	Polyethylene Cover	1	R38	ERD10TJ102	1K S			
	RQE13Z	Caution tag	1	R39	ERD10TJ392	3.9K S			
		PRINTED MATERIAL		R40	ERD25FJ821	820 S			
	RQX4150Z	Instruction Book	1	R41	ERD25FJ473	47K S			
				R42	ERD10TJ392	3.9K S			
				R43	ERD10TJ563	56K S			
				R44	ERD10TJ561	560 S			
				R45	ERD10TJ561	560 S			
				R46	ERD10TJ471	470 S			
				R47	ERD10TJ182	1.8K S			
				R48	ERD10TJ473	47K S			
				R49	ERD10TJ182	1.8K S			
				R50	ERD10TJ473	47K S			
				R51	ERD25FJ150	15 S			
				R52	ERD10TJ473	47K S			
				R101	ERD10TJ102	1K S			
				R102	ERD10TJ100	10 S			
				R103	ERD10TJ473	47K S			
				R104	ERD10TJ222	2.2K S			
				R105	ERD10TJ562	5.6K S			
				R106	ERD10TJ222	2.2K S			
				R107	ERD10TJ562	5.6K S			
				R108	ERD10TJ470	47 S			
				R109	ERD10TJ123	12K S			
				R110	ERD10TJ823	82K S			
				R111	ERD10TJ562	5.6K S			
				R112	ERD10TJ153	15K S			
				R113	ERD10TJ332	3.3K S			
				R114	ERD10TJ562	5.6K S			
				R115	ERD10TJ332	3.3K S			
				R117	ERD10TJ102	1K S			
				R118	ERD10TJ104	100K S			
				R119	ERD10TJ331	330 S			
				R120	ERD10TJ472	4.7K S			
				R121	ERD25FJ821	820 S			
				R122	ERC18GJ105	1M S			
				R124	ERD10TJ183	18K S			
				R125	ERD10TJ274	270K S			
				R126	ERD10TJ154	150K S			
				R127	ERD10TJ332	3.3K S			
				R129	ERD10TJ332	3.3K S			
				R130	ERD10TJ104	100K S			
				R131	ERD10TJ473	47K S			
				R132	ERD10TJ103	10K S			
				R133	ERD10TJ473	47K S			
				R134	ERD10TJ181	180 S			
							R219	ERD10TJ331	330 S
							R220	ERD10TJ472	4.7K S
							R221	ERD10TJ821	820 S
							R222	ERC18GJ105	1M S
							R224	ERD10TJ183	18K S
							R225	ERD10TJ274	270K S
							R226	ERD10TJ154	150K S
							R227	ERD10TJ332	3.3K S
							R229	ERD10TJ332	3.3K S
							R230	ERD10TJ104	100K S
							R231	ERD10TJ473	47K S
							R232	ERD10TJ103	10K S
							R233	ERD10TJ473	47K S
							R234	ERD10TJ181	180 S
							R235	ERD25FJ472	4.7K S
							R236	ERD25FJ562	5.6K S
							R237	ERD25FJ820	82 S
							R238	ERD10TJ332	3.3K S
							R239	ERD10TJ334	330K S
							R240	ERD10TJ152	1.5K S
							R241	ERD10TJ472	4.7K S
							R242	ERD10TJ123	12K S
							R243	ERD10TJ104	100K S

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
R244	ERD10TJ333	33K S	R362	ERD10TJ471	470 S	C103	ECKDLH101KB	100P	C234	ECFVD153MX	0.015
R245	ERD10TJ473	47K S	R363	ERD10TJ561	560 S	C104	ECEA1HS100	10 S	C235	ECEA50ZR1	0.1 S
R246	ERD10TJ333	33K S	R364	ERD10TJ151	150 S	C105	ECKDLH681KB	680P	C236	ECFVD102KV	0.001
R247	ERD10TJ472	4.7K S	R365	ERD10TJ472	4.7K S	C106	ECKDLH471KB	470P	C237	ECEA50Z1	1 S
R249	ERD10TJ154	150K S	R367	ERD25FJ223	22K S	C107	ECFVD473KX	0.047	C239	ECEA50ZR22	0.22 S
R250	ERD10TJ152	1.5K S	R368	ERD10TJ103	10K S	C108	ECKDLH471KB	470P	C240	ECFVD682KV	0.0068
R251	ERD10TJ560	56 S	R369	ERD10TJ681	680 S	C109	ECEA1CS330	33 S	C241	ECFVD223MX	0.022
			R370	ERD10TJ273	27K S	C110	ECFVD182KV	0.0018	C242	ECEA50ZR22	0.22 S
R252	ERD25FJ822	8.2K S	R371	ERD10TJ102	1K S	C111	ECEA50Z3R3	3.3 S	C243	ECFVD473MX	0.047
R253	ERD10TJ102	1K S	R372	ERC10TJ564	560K S	C112	ECFVD222KV	0.0022	C244	ECKDLH152KB	0.0015
R254	ERD25FJ102	1K S				C114	ECEA50Z3R3	3.3 S	C245	ECEA1HKR22	0.22
R256	ERD10TJ472	4.7K S	R373	ERD25FJ4R7	4.7 S	C115	ECFVD153MX	0.015	C246	ECEA50Z1	1 S
R257	ERD10TJ103	10K S	R375	ERD10TJ333	33K S	C116	ECEA1HS100	10 S	C247	ECEA1AS101	100
R258	ERD10TJ471	470 S	R376	ERD10TJ103	10K S	C117	ECKDLH101KB	100P	C248	ECFVD102KV	0.001
R259	ERD10TJ330	33 S	R377	ERD10TJ273	27K S	C118	ECEA50Z3R3	3.3 S	C249	ECEA1AS101	100
R260	ERD10TJ820	82 S	R378	ERD10TJ221	220 S	C119	ECQV05334JZ	0.33	C250	ECCDLH150KC	15P
R261	ERD10TJ473	47K S	R379	ERD10TJ100	10 S	C120	ECFVD273KX	0.027	C252	ECBT1E103NX	0.01
R262	ERD10TJ102	1K S				C122	ECQV05104JZ	0.1	C253	ECBT1E103NX	0.01
				CAPACITORS		C123	ECEA1AS331	330 S	C254	ECEA1CS102	1000 S
R263	ERD10TJ102	1K S	C1	ECCDLH040C	4P	C124	ECEA1HS100	10 S	C255	ECQV05104JZ	0.1
R264	ERD10TJ471	470 S	C2	ECBT1H390J	39P	C125	ECEA50ZR1	0.1 S	C256	ECEA1HK0R1	0.1
R265	ERD10TJ471	470 S	C3	ECCDLH470KC	47P	C126	ECFVD473KX	0.047	C257	ECBS1H331KB	330P
R266	ERD10TJ471	470 S	C4	ECBT1H100J	10P	C127	ECEA1HS100	10 S	C258	ECEA1EK4R7	4.7
R267	ERD10TJ102	1K S	C5	ECKDLH223ZF	0.022	C128	ECFVD472KV	0.0047	C259	ECEA50Z1	1 S
R268	ERD10TJ394	390K S	C6	ECBT1H220J	22P	C129	ECEA50ZR1	0.1 S	C260	ECEA50Z1	1 S
R269	ERD10TJ823	82K S	C7	ECBT1H102MD	0.001	C130	ECFVD562KV	0.0056	C301	ECQV05563JZ	0.056
R270	ERD10TJ1R0	1 S	C8	ECBT1H2R7K	2.7P	C131	ECEA1HS100	10 S	C302	ECQP1472JZ	0.0047
R271	ERD10TJ222	2.2K S	C10	ECBT1H100JC	10P	C132	ECEA50Z1	1 S	C303	ECQV05223JZ	0.022
R272	ERD10TJ124	120K S	C11	ECCDLH1R5CC	1.5P	C133	ECEA50Z1	1 S	C304	ECEA1AU471	470
						C134	ECFVD153MX	0.015	C305	ECEA1AU102	1000
R301	ERD10TJ1R0	1 S	C12	ECBT1H180JR	18P	C135	ECEA50ZR1	0.1 S	C306	ECFVD103MX	0.01
R302	ERD25FJ103	10K S	C13	ECCDLH070C	7P	C136	ECFVD102KV	0.001	C307	ECQP1361JZ	360P
R303	ERD10TJ103	10K S	C14	ECBT1H102MD	0.001	C137	ECEA50Z1	1 S	C308	ECFVD472KV	0.0047
R305	ERD10TJ102	1K S	C16	ECCDLH220KC	22P	C139	ECEA50ZR22	0.22 S	C311	ECFVD682KV	0.0068
R306	ERD10TJ182	1.8K S	C18	ECBT1H220J	22P	C140	ECFVD682KV	0.0068	C312	ECFVD682KV	0.0068
R308	ERD25FJ4R7	4.7 S	C20	ECBT1E103NX	0.01	C141	ECFVD223MX	0.022	C313	ECEA1HS100	10 S
R309	ERD10TJ473	47K S	C21	ECCDLH100FC	10P	C142	ECEA50ZR22	0.22 S	C314	ECEA1HS100	10 S
R311	ERD25FJR47	0.47 S	C22	ECQP1221JZ	220P	C143	ECFVD473MX	0.047	C317	ECEA1AU102	1000
R312	ERD10TJ222	2.2K S	C23	ECQP1361JZ	360P	C144	ECKDLH152KB	0.0015	C319	ECFVD222KV	0.0022
R313	ERD10TJ222	2.2K S	C24	ECQP1392JZ	3900P	C145	ECEA1HKR22	0.22	C320	ECEA1HS100	10 S
						C146	ECEA50Z1	1 S	C321	ECEA1AU102	1000
R314	ERD25FJ8R2	8.2 S	C25	ECQP1151JZ	150P	C147	ECEA1CU471	470	C322	ECEA1AS101	100 S
R315	ERD25FJ681	680 S	C26	ECCDLH120KC	12P	C148	ECFVD102KV	0.001	C323	ECFVD152KV	0.0015
R316	ERD25FJ681	680 S	C27	ECKDLH103ZF	0.01	C149	ECEA1AS101	100	C324	ECEA25Z4R7	4.7 S
R317	ERD25FJ333	33K S	C28	ECBT1E103NX	0.01	C150	ECCDLH150KC	15P	C325	ECEA1HS100	10 S
R318	ERD25FJ333	33K S	C29	ECBT1H102MD	0.001	C152	ECBT1E103NX	0.01	C326	ECBS1H102MD	0.001
R319	ERD10TJ821	820 S	C30	ECBT1E103NX	0.01	C153	ECEA1AS101	100 S	C327	ECBS1H471KB	470P
R321	ERD25FJ101	100 S	C31	ECEA50ZR22	0.22 S	C154	ECEA1CS102	1000 S	C328	ECBS1C103NY	0.01
R322	ERD10TJ562	5.6K S	C32	ECKDLH223ZF	0.022	C155	ECQV05104JZ	0.1	C329	ECEA1HK010	1
R323	ERX12ANJR22	0.22 S	C35	ECKDLH223ZF	0.022	C156	ECEA1HK0R1	0.1	C330	ECEA1HK010	1
R324	ERD10TJ102	1K S	C36	ECFVD393MX	0.039	C157	ECBS1H331KB	330P	C331	ECEA1EK3R3	3.3
						C158	ECEA1EK4R7	4.7	C332	ECEA1CK100	10
R326	ERD10TJ472	4.7K S	C37	ECEA1AS470	47 S	C159	ECEA50Z1	1 S	C333	ECEA1HK010	1
R327	ERD25FJ151	150 S	C38	ECEA1HS100	10 S	C160	ECEA50Z1	1 S	C334	ECFVD473MX	0.047
R328	ERD10TJ271	270 S	C39	ECFVD223MX	0.022	C201	ECEA50Z1	1 S	C335	ECEA1HK010	1
R329	ERD10TJ682	6.8K S	C40	ECKDLH181KB	180P	C202	ECEA50ZR22	0.22 S	C336	ECEA1AK470	47
R330	ERD10TJ153	15K S	C41	ECCDLH470KC	47P	C203	ECKDLH101KB	100P	C337	ECEA1CS330	33 S
R331	ERD10TJ103	10K S	C42	ECFVD473MX	0.047	C204	ECEA1HS100	10 S	C338	ECEA1AU102	1000
R332	ERD10TJ103	10K S	C43	ECFVD333MX	0.033	C205	ECKDLH681KB	680P	C339	ECEA1CS221	220 S
R333	ERD10TJ102	1K S	C44	ECFVD223MX	0.022	C206	ECKDLH471KB	470P	C340	ECEA1CU471	470
R334	ERD10TJ222	2.2K S	C45	ECKDLH471KB	470P	C207	ECFVD473KX	0.047	C341	ECEA1CS222	2200 S
R336	ERD10TJ103	10K S	C46	ECBT1H470J	47P	C208	ECKDLH471KB	470P	C342	ECKDLH223ZF	0.022
						C209	ECEA1CS330	33 S	C343	ECKDLH223ZF	0.022
R338	ERD10TJ153	15K S	C47	ECEA50Z1	1 S	C210	ECFVD182KV	0.0018	C344	ECKDLH223ZF	0.022
R339	ERD10TJ103	10K S	C48	ECFVD473MX	0.047	C211	ECEA50Z3R3	3.3 S	C345	ECKDLH223ZF	0.022
R341	ERD10TJ103	10K S	C49	ECEA1AS101	100 S	C212	ECFVD222KV	0.0022	C346	ECEA1CU221	220
R342	ERD10TJ102	1K S	C50	ECQP1681JZ	680P	C214	ECEA50Z3R3	3.3 S	C347	ECKDLH223ZF	0.022
R343	ERD10TJ182	1.8K S	C51	ECEA1AS101	100 S	C215	ECFVD153MX	0.015	C349	ECEA50Z2R2	2.2 S
R344	ERD10TJ222	2.2K S	C52	ECEA50Z1	1 S	C216	ECEA1HS100	10 S	C350	ECKDLH101KB	100P
R345	ERD10TJ563	56K S	C53	ECEA25Z4R7	4.7 S	C217	ECKDLH101KB	100P	C351	ECKDLH471KB	470P
R346	ERD10TJ223	22K S	C54	ECEA50ZR47	0.47	C218	ECEA50Z3R3	3.3 S	C352	ECFVD153MX	0.015
R347	ERD10TJ390	39 S	C55	ECEA50ZR22	0.22	C219	ECQV05334JZ	0.33	C353	ECEA1HS100	10 S
R348	ERD10TJ102	1K S	C57	ECFVD393MX	0.039	C220	ECFVD273KX	0.027	C354	ECKDLH471KB	470P
						C222	ECQV05104JZ	0.1	C355	ECKDLH102KB	0.001
R349	ERD10TJ224	220K S	C58	ECEA50Z1	1 S	C223	ECEA1AS330	33 S	C356	ECKDLH101KB	100P
R350	ERD10TJ124	120K S	C59	ECEA50Z1	1 S	C224	ECEA1HS100	10 S	C357	ECKDLH331KB	330P
R351	ERD10TJ103	10K S	C60	ECEA50Z3R3	3.3 S	C225	ECEA50ZR1	0.1 S			
R352	ERD10TJ682	6.8K S	C61	ECBT1C223NY	0.022	C226	ECFVD473KX	0.047	C358	ECKDLH331KB	330P
R353	ERD10TJ102	1K S	C62	ECEA50ZR1	0.1 S	C227	ECEA1HS100	10 S	C359	ECKDLH221KB	220P
R354	ERD10TJ563	56K S	C63	ECKDLH103ZF	0.01	C228	ECFVD472KV	0.0047	C360	ECKDLH221KB	220P
R355	ERD50FJ181	180 S	C64	ECFVD104MX	0.1	C229	ECEA50ZR1	0.1 S	C361	ECKDLH103ZF	0.01
R356	ERD10TJ102	1K S	C65	ECBT1H5R6K	5.6P	C230	ECFVD562KV	0.0056	C362	ECKDLH223ZF	0.022
R357	ERD10TJ124	120K S	C66	ECKDLH102MD	0.001	C231	ECEA1HS100	10 S	C364	ECFVD333MX	0.033
R358	ERD10TJ221	220 S	C101	ECEA50Z1	1 S	C232	ECEA50Z1	1 S	C365	ECEA1CK100	10
R361	ERD10TJ120	12 S	C102	ECEA50ZR22	0.22 S	C233	ECEA50Z1	1 S			

RX-F32LS DEUTSCH

TECHNISCHE DATEN

Allgemeines:

Stromversorgung: Wechselstrom: 110~115/115~127/
200~220/230~250 V, 50/60 Hz
Batterien: 12V (acht Trockenbatterien
der Größe "C": National UM-2 o.ä.)
Kraftwagenbatterie: über den
Kraftwagenadaptor RP-952
Leistungsaufnahme: 25W (bei Netzbetrieb)
Ausgangsleistung: max. 20W (2×10W) eff.
Lautsprecher: Dynamischer PM-Lautsprecher,
φ9cm (62)
Eingangsspannungen: MIC: Empfindlichkeit 0,25mV, Mikrofon-
impedanz 200~600Ω
LINE IN: Empfindlichkeit 200mV/mind.
50kΩ
DC IN: 12V
Ausgangsimpedanzen: LINE OUT: Empfindlichkeit 420mV/max.
47kΩ
EXT SP: 3~8Ω
HEADPHONES: 32Ω
Abmessungen (B×H×T): 418×220×110mm
Gewicht
(ohne Batterien): 4,15kg

Empfangsteil:

Wellenbereiche: UKW: 87,5~108MHz
LW: 150~285kHz (2000~1060m)
MW: 520~1610kHz (577~186m)
KW: 5,9~18MHz (50,8~16,7m)

Zwischenfrequenz:

UKW: 10,7MHz
LW/MW/KW: 455kHz
Empfindlichkeit: UKW: 1,8μV bei 500mW
Ausgangsleistung
LW: 178μV/m bei 50mW
Ausgangsleistung
MW: 141μV/m bei 50mW
Ausgangsleistung
KW: 8,9μV bei 50mW
Ausgangsleistung

Tonbandteil:

Frequenzgang: 60~12.000Hz (Normalband)
60~14.000Hz (Reineisenband)
Aufnahmesystem: Wechselstrom-Vormagnetisierung,
Wechselstromlöschung
Bandgeschwindigkeit: 4,8cm/s
Gleich-
laufschwankungen: 0,2% bewertet (WRMS)
Spieldauer: 1 Stunde mit Cassette C-60
Spurlage: Stereoaufnahme und-wiedergabe auf
4 Spuren/2 Kanälen

Änderungen vorbehalten.

BEZEICHNUNGEN IN DER SCHEMATISCHEN DARSTELLUNG

Bemerkungen:

- S1-1~S1-10: Aufnahme-/Wiedergabeschalter auf „Wiedergabe“.
(1...Wiedergabe, 3...Aufnahme)
- S2-1~S2-4: Funktionsschalter auf „TAPE/OFF“.
(1 = TAPE/OFF, 2 = RADIO, 3 = LINE IN)
- S3-1~S3-5: Bandsortenvähler auf „METAL“.
(1 = NORMAL, 2 = METAL)
- S4-1~S4-4: Betriebsart-/Schwebungsunterdrückungs-
schalter auf „STEREO/II“.
(1 = MONO/I, 2 = STEREO/II, 3 = AMBIENCE/III)
- S5: Dolby NR schalter auf „OUT“.
- S6-1, S6-2: Loudness schalter auf „AUS“.
- S7: TPS-Programmschalter.
- S8-1~S8-8: Wellenbereichsschalter auf „FM“.
(1 = UKW, 2 = LW, 3 = MW, 4 = KW)
- S9: Motors schalter auf „OFF“.
- S10: Wiedergabetaste auf „OFF“.
- S11: TPS schalter auf „AUS“.
- S12: Wahlschalter für Gleichstrom- oder
Wechselstrombetrieb auf „DC IN“.
- S13: Netzspannungswähler.
- VR101, 201: Spannungsregler zur Einstellung der
Dolby.
- VR102, 202: Spannungsregler zur Einstellung des
Aufnahmestrom.
- VR103, 203: Spannungsregler zur Einstellung des
Vormagnetisierstroms.
- VR104, 204: Spannungsregler zur Einstellung des
Anzeigepegels.
- VR105, 205: Baßregler.
- VR106, 206: Höhenregler.
- VR107, 207: Lautstärkeregler.
- VR301: Spannungsregler zur Einstellung des
Löschstroms. (NORMAL)
- VR302: Spannungsregler zur Einstellung des
Löschstroms. (METAL)
- VR303: Balanceregler.
- Die Markierung (▼) bezeichnet einen Meßpunkt, z.B.
▼ = Meßpunkt 1.
- Alle Gleichspannungen sind mit einem Elektronikvoltmeter
vom negativen Batterieanschluß aus zu messen.
< >...Stellung „UKW“, ()...Stellung „AM“,
()...Stellung „Aufnahme“,
Nein marke...Stellung „Wiedergabe“.
- Batteriestrom: ohne Signal 135mA
bei maximaler Ausgangsleistung
(Radio) 1.2A
bei maximaler Ausgangsleistung
(Cassette) 1.3A
- Zur Betriebssicherheit
Die im Schaltplan mit Δ gekennzeichneten Bauteile sind für
einen sicheren Betrieb dieses Gerätes besonders wichtig
und sollten daher nur durch Originalbauteile ersetzt werden.

ABGLEICH

VORGANGSWEISE BEIM ABGLEICH

BITTE DIESEN ABSCHNITT VOR DEM ABGLEICH SORGFÄLTIG DURCHLESEN

- Den Lautstärkeregler in die Maximalposition stellen.
- Den Baßregler und den Höhenregler in die
Mittelposition stellen.
- Den Wellenbereichsschalter auf LW, MW, KW oder
UKW stellen.
- Den Balanceregler in die Mittelposition stellen.
- Den dolby NR schalter auf „AUS“.
- Den Loudness schalter auf „AUS“.
- Den Funktionsschalter auf „radio“ stellen.
- Drehen Sie den Feinabstimmregler in die Mittelstellung.
- Eine Gleichspannung von 12V anlegen.
- Der Signalgeneratorausgang sollte nicht größer sein, als
für eine Ausgangsanzeige unbedingt notwendig ist.

LW-, MW- und KW-ABGLEICH

WEL- LEN- BAND	SIGNALGENERATOR oder WOBBELGENERATOR		STELLUNG DES ABSTIMM- REGLERS	MESSGERÄT (ELEKTRONIK- VOLTMESSER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
	ANSCHLÜSSE	FREQUENZ				
AM-ZF-ABGLEICH						
(1)	MW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	455kHz, 30% mod. (Modulationsfrequenz 400Hz)	Der Abstimmpunkt, wo keine Interferenz auftritt (ungefähr bei 600kHz).	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	T6 (AM-ZF-Abgleich) Die maximale Ausgangsleistung einstellen.
LW-HF-ABGLEICH						
(2)	LW		145 kHz	145 kHz (Siehe Abb. 13.)	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	T3 (LW-Oszillatorspule) (*1) L5 (LW-Antennenspule) Die maximale Ausgangsleistung einstellen. L5 durch Verschieben am Ferritkern abgleichen.
(3)	LW	"	285 kHz	285 kHz (Siehe Abb. 13.)	"	CT6 (LW-Oszillatortrimmer) CT5 (LW-Antennentrimmer) Die maximale Ausgangsleistung einstellen. Die Schritte (2) und (3) wiederholen.
MW-HF-ABGLEICH						
(4)	MW	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	550 kHz	550 kHz (Siehe Abb. 13.)	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	T4 (MW-Oszillatorspule) (*1) L6 (MW-Antennenspule) Die maximale Ausgangsleistung einstellen. L6 durch Verschieben am Ferritkern abgleichen.
(5)	MW		1.500 kHz	1.500 kHz (Siehe Abb. 13.)	"	CT3 (MW-Oszillatortrimmer) CT4 (MW-Antennentrimmer) Die maximale Ausgangsleistung einstellen. Die Schritte (4) und (5) wiederholen.
(*1) Nach beendetem Abgleich ist der Antennenspulenkörper mit Wachs zu befestigen.						
KW-HF-ABGLEICH						
(6)	KW	Über einen Keramik-kondensator (10pF) an den Meßpunkt ▼ anschließen. Den negativen Ausgang an den Meßpunkt ▼ anschließen.	5.9MHz	5.9MHz (Siehe Abb. 13.)	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	T5 (KW-Oszillatorspule) T1 (KW-Antennenspule) Die maximale Ausgangsleistung einstellen.
(7)	KW		18 MHz	18MHz (Siehe Abb. 13.)	"	CT7 (KW-Oszillatortrimmer) Die maximale Ausgangsleistung einstellen. Die Schritte (6) und (7) wiederholen.

UKW-ABGLEICH

WELLENBAND	SIGNALGENERATOR oder WOBELGENERATOR		STELLUNG DES ABSTIMM-REGLERS	MESSGERÄT (ELEKTRONIK-VOLTMETER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
	ANSCHLÜSSE	FREQUENZ				
UKW-ZF-ABGLEICH						
(1) UKW	Über einen 0,001µF-Kondensator an den Meßpunkt ▼ anschließen. Den negativen Ausgang an den Meßpunkt ▼ anschließen.	10,7 MHz (SWP.)	Der Abstimm-punkt, wo keine Interferenz auftritt (ungefähr bei 90MHz).	Die Vertikal-amplitude des Oszilloskops an den Meßpunkt ▼ anschließen. Den negativen Ausgang an den Meßpunkt ▼ anschließen.	T7 (1. UKW-ZF-Abgleich)	Die Maximalamplitude einstellen. (Siehe Abb. 17.)
(2) UKW	"	"	"	"	T2 (2. UKW-ZF-Abgleich)	Die Maximalamplitude einstellen. (Siehe Abb. 18.)
UKW-HF-ABGLEICH						
(3) UKW	Über eine künstliche UKW-Antenne an den Meßpunkt ▼ anschließen. Den negativen Ausgang an den Meßpunkt ▼ anschließen.	87,5 MHz	Drehkondensator ganz geschlossen.	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	L4 (UKW-Oszillatortrimmer)	(*2) Die maximale Ausgangsleistung einstellen.
(4) UKW		108 MHz	Drehkondensator ganz aufgedreht.	"	CT1 (UKW-Oszillatortrimmer)	"
(5) UKW		90 MHz	Das Signal abstimmen.	"	L2 (UKW-Antennenspule)	"
(6) UKW		106 MHz	"	"	CT2 (UKW-Antennentrimmer)	(*2) Die maximale Ausgangsleistung einstellen. Die Schritte (3) bis (6) wiederholen.
(*2) Es gibt drei verschiedene Ausgangsfrequenzkurven. Stimmen Sie die Mittelfrequenz ab.						

KANAL TRENNUNGSABGLEICH

PRÜFUNG	UKW-MESSENDER SOURCE-ANSCHLUSS	GERÄTEAN-SCHLUSS (ELEKTRO-NISCHER ZÄHLER)	EINSTELLUNG	ANGABEN	BEMERKUNGEN
Einstellung des Pilottons	98 MHz, 60 dB Am Prüfpunkt über eine künstliche UKW-Antenne anschließen, die negative Seite mit dem Prüfpunkt verbinden.	...(+) ...(-)	VR1	19 kHz	Mit dem elektronischen Zähler den Spannungskonstanthalter (VR1) auf 19 kHz (±100 Hz) einstellen.

AUDIO-ABGLEICH

EINSTELLUNG	EINGANG	MESSPUNKT	MESSWERT	EINSTELL-PUNKT	BEMERKUNGEN
Azimut	QZZCFM (8 kHz, -20 dB)	EXT SP	Die maximale Ausgangsleistung einstellen.	Azimut-Einstellschraube	bei Wiedergabe
Oszillationsfrequenz für Vormagnetisierung	—	...(+) ...(-)	62 kHz	L301	bei Aufnahme: Oszillator → II Bandsortenvähler... Reineisen
Löschstrom	für Reineisenband oder Normalband.	...(+) ...(-)	Reineisen 150 mV Normal 75 mV	Reincisen VR301 Normal VR302	bei Aufnahme: Oszillator → II Bandsortenvähler... Reineisen oder Normal

EINSTELLUNG	EINGANG	MESSPUNKT	MESSWERT	EINSTELL-PUNKT	BEMERKUNGEN
Vormagnetisierungssperre	—	...(+) ...(-) ...(+) ...(-)	Die maximale Ausgangsleistung einstellen.	L101 (linker Kanal) L201 (rechter Kanal)	bei Aufnahme: Oszillator → II Bandsortenvähler... Reineisen
Vormagnetisierungsstrom	für Reineisenband oder Normalband	...(+) ...(-) ...(+) ...(-)	Reineisen 9,5 mV Normal 5,0 ± 0,5 mV	VR103 Reineisen VR203 Normal	bei Aufnahme: Oszillator → II Bandsortenvähler... Reineisen oder Normal
Dolby	MMT-150 200 nWb/m Modulationsfrequenz 400 Hz	...(+) ...(-) ...(+) ...(-)	580 mV	VR101 (linker Kanal) VR201 (rechter Kanal)	bei Wiedergabe Oszillator → II Bandsortenvähler... Normal
Kopf strom	LINE IN (-14 dB)	...(+) ...(-) ...(+) ...(-)	Normal 0,35 mV Reineisen 0,58 ± 0,05 mV	VR102 (linker Kanal) VR202 (rechter Kanal)	bei Wiedergabe Oszillator → II Bandsortenvähler... Normal oder Reineisen

ABGLEICH DER LEUCHTDIODEN-ANZEIGE

PRÜFUNG	EINSTELLUNG	BEMERKUNGEN
Pegelprüfung	VR104 (rechter Kanal) VR204 (linker Kanal)	1. Testband abspielen (QZZCLA). 2. VR104 (rechter Kanal) und VR204 (linker Kanal) so einstellen, daß die dritt Leuchtdiode von links aufleuchtet.

RX-F32LS FRANÇAIS

SPECIFICATIONS

Généralités:		Section radio:	
Alimentation:	c.a. 110 à 115/115 à 127/200 à 220/230 à 250V, 50/60Hz Piles: 12V (huit piles sèches de dimension C) (National UM-2 ou équivalent) Batterie pour automobile: avec adaptateur RP-952 automobile en option	Gamme de fréquence radio:	FM: 87,5 à 108MHz GO: 150 à 285kHz (2000 à 1060m) PO: 520 à 1610kHz (577 à 186m) OC: 5,9 à 18MHz (50,8 à 16,7m)
Consommation:	25W (C.A. seulement)	Fréquence intermédiaire:	FM: 10,7MHz AM (GO/PO/OC): 455kHz
Puissance de sortie:	20W (10W×2)...RMS (max.)	Sensibilité:	FM: 1,8µV pour une sortie de 500mW GO: 178µV/m pour une sortie de 50mW PO: 141µV/m pour une sortie de 50mW OC: 8,9µV pour une sortie de 50mW
Enceinte acoustique:	Haut-parleur dynamique 9cm à aimant fixe (6Ω)	Section platine magnétophone:	
Entrée:	MIC: sensibilité 0,25mV: impédance applicable pour microphone 200 à 600Ω ENTREE: sensibilité 200mV/50kΩ ou plus DC IN: 12V	Réponse de fréquence:	60 à 12.000Hz (avec bande normale) 60 à 14.000Hz (avec bande Métal)
Sortie:	SORTIE: sensibilité 420mV/47kΩ EXT SP: 3 à 8Ω HEADPHONE: 32Ω	Système d'enregistrement:	Polarisation C.A., effacement C.A. 4,8cm/sec.
Dimensions (l×h×Pr)cm:	41,8×22,0×11,0 (16 ¹ / ₂ ×8 ¹¹ / ₁₆ ×4 ³ / ₈)"	Vitesse de bande:	
Poids kg:	4,15 sans piles	Pleurage et scintillement:	0,2% (WRMS)
		Durée de lecture:	1 heure avec cassette C-60
		Pistes:	Enregistrement et lecture stéréo 4 pistes, 2 canaux

Ces spécifications sont sujettes à des changements sans préavis.

SYMBOLES UTILISES DANS LE SCHEMA

Remarques:

1. S1-1~S1-10: Commutateur enregistrement/lecture en position "playback".
(1...Lecture, 3...Enregistrement)

2. S2-1~S2-4: Commutateur de fonction en position "TAPE/OFF".
(1..."TAPE/OFF", 2..."RADIO", 3..."LINE IN")

3. S3-1~S3-5: Sélecteur de bande en position "METAL".
(1..."NORMAL", 2..."METAL")

4. S4-1~S4-4: Commutateur de stéréo-mono/anti-battements en position "STEREO/II".
(1..."MONO/I", 2..."STEREO/II", 3..."AMBIENCE/III")

5. S5: Commutateur de Dolby NR en position "OUT".

6. S6-1, S6-2: Commutateur du Loudness en position "Arrêt".

7. S7: Interrupteur "ON/OFF" de la fonction TPS en position "OFF".

8. S8-1~S8-8: Sélecteur de gamme d'onde en position "FM".
(1..."FM", 2..."LW", 3..."MW", 4..."SW")

9. S9: Commutateur du moteur en position "OFF".

10. S10: Commutateur du commutateur lecture en position "OFF".

11. S11: Commutateur TPS en position "Arrêt".

12. S12: Sélecteur C.A./C.C. en position "DC IN".

13. S13: Sélecteur de tension.

14. VR101, 201: Régulateur de tension de réglage de Dolby.

15. VR102, 202: Régulateur de tension de réglage de courant de enregistrement.
16. VR103, 203: Régulateur de tension de réglage du courant de polarisation.

17. VR104, 204: Régulateur de tension de réglage du niveau des indicateurs.

18. VR105, 205: Commande des graves.

19. VR106, 206: Commande des aigus.

20. VR107, 207: Potentiomètre de volume.

21. VR301: Régulateur de tension de réglage du courant (NORMAL) d'effacement.

22. VR302: Régulateur de tension de réglage du courant (METAL).

23. VR303: Commande de balance.

24. La marque (▼) signale un point de vérification.
Ex.: ▼ = point de vérification 1.

25. La tension C.C. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
< >...Position FM, ()...Position AM,
(« »)...Position Enregistrement,
Non marque...Position Lecture.

26. Courant des piles: Pas de signal 135mA
Sortie maximum (Radio).....1.2A
Sortie maximum (Bande) 1.3A
27. Remarque importante concernant la sécurité
Les pièces marquées ▲ ont des caractéristiques spéciales, importantes pour la sécurité.
Lors du remplacement d'une de ces pièces, n'utiliser que les pièces spécifiées par le fabricant.

ALIGNEMENTS

INSTRUCTIONS D'ALIGNEMENT

AVANT DE PROCEDER AUX ALIGNEMENTS, LIRE ATTENTIVEMENT CE QUI SUIIT					
1. Placer le potentiomètre de volume au maximum.	7. Placer le sélecteur de fonctions sur "radio".				
2. Placer les commandes des graves et aigus au centre.	8. Placer la commande de syntonisation fine sur sa position centrale.				
3. Placer le sélecteur de bande sur GO, PO, OC ou FM.	9. Régler la tension sur 12V C.C.				
4. Placer la commande de balance au centre.	10. Régler la sortie du générateur étalonné de façon à ne pas surcharger les circuits.				
5. Placer le Commutateur Dolby NR en position "Arrêt".					
6. Placer le Commutateur Loudness en position "Arrêt".					

ALIGNEMENT GO, PO, et OC

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRO- NIQUES)	REGLAGE	OBSERVATIONS
	BRANCHEMENTS	FREQUENCE				
ALIGNEMENT IF sur AM						
(1) PO	Faire une boucle de plusieurs tours de fil et émettre ls signal dans la boucle du récepteur.	455kHz (modulation de 30% à 400Hz)	Point de non- interférence. (à/environ 600kHz)	Voltmètre branché à la bobine oscillatrice.	T6 (AM IFT)	Régler pour une sortie maximum.
ALIGNEMENT HF sur GO						
(2) GO	"	145kHz	145kHz (Voir fig. 13.)	Voltmètre branché à la bobine oscillatrice.	T3 (bobine d'oscillateur GO) (*1) L5 (bobine d'antenne GO)	Régler pour une sortie maximum en glissant la bobine L5 le long du noyau en ferrite.
(3) GO	"	285kHz	285kHz (Voir fig. 13.)	"	CT6 (trimmer d'oscillateur GO) CT5 (trimmer d'antenne GO)	Régler pour une sortie maximum. Refaire les étapes (2) et (3).
ALIGNEMENT HF sur PO						
(4) PO	"	550kHz	550kHz (Voir fig. 13.)	Voltmètre branché à la bobine oscillatrice.	T4 (bobine d'oscillateur PO) (*1) L6 (bobine d'antenne PO)	Régler pour une sortie maximum en glissant la bobine L6 le long du noyau en ferrite.
(5) PO	"	1.500kHz	1.500kHz (Voir fig. 13.)	"	CT3 (trimmer d'oscillateur PO) CT4 (trimmer d'antenne PO)	Régler pour une sortie maximum. Refaire les étapes (4) et (5).
(*1) Sceller la bobine d'antenne à la cire après avoir achevé l'alignement.						
ALIGNEMENT HF sur OC						
(6) OC	Brancher au point ▼ par un condensateur en céramique (10pF).	5.9MHz	5.9MHz (Voir fig. 13.)	Voltmètre branché à la bobine oscillatrice.	T5 (bobine d'oscillateur OC) T1 (bobine d'antenne OC)	Régler pour une sortie maximum.
(7) OC	Côté négatif au point ▼.	18MHz	18MHz (Voir fig. 13.)	"	CT7 (trimmer d'oscillateur OC)	Régler pour une sortie maximum. Refaire les étapes (6) et (7).

ALIGNEMENT FM

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRO- NIQUES)	REGLAGE	OBSERVATIONS	
	BRANCHEMENTS	FREQUENCE					
ALIGNEMENT IF sur FM							
1)	FM	Brancher au point ▼ via 0,001µF. Côté négatif au point ▼.	10,7MHz (SWP.)	Point de non- interférence. (à/environ 90MHz)	Brancher la sonde vert. de l'oscillo- scope au point ▼. Côté négatif au point ▼.	T7 (FM 1 ^{ère} IFT)	Régler pour une amplitude maximum. (Voir fig. 17.)
2)	FM	"	"	"	"	T2 (FM 2 ^{ème} IFT)	Régler pour une amplitude maximum. (Voir fig. 18.)

■ ALIGNEMENT FM

BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRO- NIQUES)	REGLAGE	OBSERVATIONS	
	BRANCHEMENTS	FREQUENCE					
ALIGNEMENT HF sur FM							
(3)	FM		87,5MHz	Condensateur variable totalement fermé.	Voltmètre branché à la bobine oscillatrice.	L4 (bobine d'oscillateur FM)	(*2) Régler pour une sortie maximum.
(4)	FM	Brancher au point ▼ via une antenne fictive FM. Côté négatif au point ▼.	108MHz	Condensateur variable ouvert à fond.	"	CT1 (trimmer d'oscillateur FM)	"
(5)	FM		90MHz	Syntoniser sur le signal.	"	L2 (bobine d'antenne FM)	"
(6)	FM		106MHz	"	"	CT2 (trimmer d'antenne FM)	(*2) Régler pour une sortie maximum. Refaire les étapes (3) à (6).
(*2) Il y aura trois réponses de sortie; la syntonisation adéquate est la fréquence du milieu.							

■ ALIGNEMENT DE LA SEPARATION

ELEMENT	GENERATEUR DE SIGNAUX FM BRANCHE- MENT SUR LA SOURCE	BRANCHEMENT A L'EQUIPMENT (COMPTEUR ELECTRONIQUE)	REGLAGE	SPECIFICATION	REMARQUES
Régler le signal pilote.	98MHz, 60dB Brancher au point de coupure ▼ par l'intermédiaire d'une antenne FM fictive. Côté négatif au point de coupure ▼.	▼ ... (+) ▼ ... (-)	VR1	19kHz	Régler VR1 pour 19kHz (±100Hz) en effectuant la lecture sur le compteur électronique.

■ ALIGNEMENTS AUDIO

ELEMENT	ENTREE	POINT DE MESURE	SPECIFICATION	POINT DE REGLAGE	OBSERVATIONS
Azimuth	QZZCFM (8kHz, -20dB)	EXT SP	Régler pour une sortie maximum.	Vis d'azimut	Mode de lecture
Fréquence d'oscillation de polarisation	—	▼ ... (+) ▼ ... (-)	62kHz	L301	Mode d'enregistrement Interrupteur anti-batte-ment → II Sélecteur de bande... Métal
Courant d'effacement	Utiliser une bande METAL ou NORMAL.	▼ ... (+) ▼ ... (-)	Métal 150mV Normal 75mV	Métal VR301 Normal VR302	Mode d'enregistrement Interrupteur anti-batte-ment → II Sélecteur de bande... Métal ou Normal
Eliminateur de polarisation	—	▼ ... (+) (canal gauche) ▼ ... (-) (canal gauche) ▼ ... (+) (canal droit) ▼ ... (-) (canal droit)	Régler pour une sortie maximum.	L101 (canal gauche) L201 (canal droit)	Mode d'enregistrement Interrupteur anti-batte-ment → II Sélecteur de bande... Métal
Courant de polarisation	Utiliser une bande METAL ou NORMAL.	▼ ... (+) (canal gauche) ▼ ... (-) (canal gauche) ▼ ... (+) (canal droit) ▼ ... (-) (canal droit)	Métal 9,5mV Normal 5,0±0,5mV	Métal VR103 Normal VR203	Mode d'enregistrement Interrupteur anti-batte-ment → II Sélecteur de bande... Métal ou Normal
Dolby	MMT-150 200nWb/m Modulation de 400Hz	▼ ... (+) (canal gauche) ▼ ... (-) (canal gauche) ▼ ... (+) (canal droit) ▼ ... (-) (canal droit)	580mV	VR101 (canal gauche) VR201 (canal droit)	Mode de lecture Interrupteur anti-batte-ment → II Sélecteur de bande... Normal
Courant de tête.	ENTREE (-14dB)	▼ ... (+) (canal gauche) ▼ ... (-) (canal gauche) ▼ ... (+) (canal droit) ▼ ... (-) (canal droit)	Normal 0,35mV Métal 0,58±0,05mV	VR102 (canal gauche) VR202 (canal droit)	Mode de lecture Interrupteur anti-batte-ment → II Sélecteur de bande... Normal ou Métal

■ ALIGNEMENTS DES VU-METRES DEL

ELEMENT	REGLAGE	REMARQUES
Contrôle du niveau	VR104 (canal droit) VR204 (canal gauche)	1. Lecture de la cassette de contrôle (QZZCLA). 2. Régler le VR104 (canal droit) & VR204 (canal gauche) de façon à ce que la 3 ^{ème} DEL à partir de la gauche commence à s'allumer.